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Vol. XIV – 1961 – Fasc. 1

Bela Balassa: Towards a Theory of Economic Integration 1

A. Maizels: The Effects of Industrialization on Exports of Primary-Producing Countries 18

Franz Gehrels: The Effect of Price on Europe's Exports to the United States 47

Kenneth K. Kurihara: Cost Disinflation and Export Expansion . 63

Leon Hollerman: Some Doubts About the "Over-Fulfillment" of Japan's New Long Range Economic Plan. A Note 73

W. Krelle: Income Distribution and Technical Progress. A Review Article 81

Daniel Villey: Au delà de l'offre et de la demande 97

Besprechungen – Comptes rendus – Reviews 107
Bibliographie – Bibliography 131
Autoren – Auteurs – Authors 135

BESPRECHUNGEN – COMPTES RENDUS – REVIEWS

ALLEN R. L. Communist Economic Warfare *(A. Nove)* 107

BERTH R. Marktforschung zwischen Zahl und Psyche. *(O. Angehrn)* . . 109

BRUTON H. J. Nuevas Aportaciones a la Teoría del Crecimiento *(E. Lerdau)* 110

DIEBOLD W. Jr. The Schuman Plan *(J. Chardonnet)* 112

ERDMAN P. und ROGGE P. Die Europäische Wirtschaftsgemeinschaft und die Drittländer *(Bela Balassa)* 114

EVELY R. and LITTLE I. M. D. Concentration in British Industry – GUENALT P. H. and JACKSON J. M. The Control of Monopoly in the United Kingdom *(T. J. Kreps)* 116

FRIEDMANN W. Law in a Changing Society *(R. Savatier)* 119

ISARD W., SCHOOLER E. W. and VIETORISZ T. Industrial Complex Analysis and Regional Development *(M. Beckmann)* 120

JOHANSEN L. A Multi-Sectoral Study of Economic Growth *(H. B. Chenery)* 121

LEFEBER L. Allocation in Space *(C. Ponsard)* 123

ROBINSON E. A. G. ed. The Economic Consequences of the Size of Nations *(R. C. Blitz)* 125

SARACENO P. Iniziativa Privata e Azione Pubblica nei Piani di Sviluppo Economico *(V. Salera)* 126

TEW B. and HENDERSON R. F. Studies in Company Finance *(M. A. Adelman)* 128

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TOWARDS A THEORY OF ECONOMIC INTEGRATION[1]

"Dans la hiérarchie des mots obscurs et sans beauté dont les discussions économiques encombrent notre langue, le terme d'intégration occupe un bon rang." FRANÇOIS PERROUX

In recent years much has been written on economic integration in its various forms, such as free trade areas, customs unions, common markets, etc. Little has been done, however, to devise a unified theory of economic integration that would encompass its different variants and would give a systematic treatment to its main problems. As a contribution towards this goal, in the present paper we will attempt to provide a consistent definition of the term "economic integration"; furthermore, we will also discuss some conflicting views about the means and objectives of integration and the probable effects of this development.

The Concept and Forms of Economic Integration

In everyday usage, the word "integration" denotes the bringing together of parts into a whole. In the economic literature, the concept "economic integration" does not have such a clear-cut meaning. This will become apparent if we survey some of the interpretations given by various authors.

In MYRDAL's opinion, integration can be regarded as a social and economic process destroying barriers (social and economic) between the participants of economic activities. "The economy is not integrated (writes MYRDAL) unless all avenues are open to everybody and the remunerations paid for productive services are equal, regardless of racial, social and cultural differences[2]." It follows that MYR-

1. The author is indebted to Professors CHARLES P. KINDLEBERGER and ROBERT TRIFFIN for helpful comments on an earlier draft of this paper.

2. GUNNAR MYRDAL, *An International Economy*, New York, Harper, 1956, p. 11. For a similar definition, cf. CHARLES KINDLEBERGER, "The United States and European Regional Economic Integration", *Social Science*, October 1959, pp. 210–217.

DAL subsumes not only international but also national integration under this heading. Most economists, however, consider only international problems when employing the concept of economic integration. In the latter case, areas of international cooperation, too, are often covered by this term. Professor TRIFFIN[3], for example, considers the activities of the Organization for European Cooperation and the European Payments Union as forms of economic integration. A somewhat more restricted definition is given, along similar lines, by F. HARTOG, who defines integration as "a rather advanced type of cooperation, as distinct from the term 'harmonization', which refers to a mutual consultation on important issues of economic policy"[4]. Essentially the same interpretation is furnished by ROBERT MARJOLIN who maintains that "any process which brings about a greater degree of unity", can rightly be called "integration"[5].

According to some authors, the existence of international economic relations should be used as measuring rod. Hence, integration is already realized as a result of trade relations between independent economies on the world market[6]. A variant of this view is presented by Professor SCHNEIDER[7], who contrasts the case of water-tight isolation with that of total integration, and regards all intermediate forms between these two extreme positions as varying degrees of economic integration. The problem of optimizing enters the definition of Professor TINBERGEN, who considers integration as "the creation of the most desirable structure of international economy, removing artificial hindrances to the optimal operation and introducing deliberately all desirable elements of co-ordination or unification"[8]. This

3. ROBERT TRIFFIN, "Convertibilité monétaire et intégration économique", *Economie Appliquée*, October–December 1956, pp. 618–658.

4. F. HARTOG, "European Economic Integration: A Realistic Conception", *Weltwirtschaftliches Archiv*, 1953 (2), p. 165.

5. ROBERT MARJOLIN, *Europe and the United States in the World Economy*, Durham, NC, Duke University Press, 1953, p. 41.

6. Cf. JEAN WEILLER, "Les degrés de l'intégration et les chances d'une 'zone de coopération' internationale», *Revue Economique*, March 1958, p. 233.

7. ERICH SCHNEIDER, "Lineamenti di una teoria economia del mercato comune", *Rivista Economica de Scienze Economiche e Commerciali*, February 1957, pp. 107–108.

8. JAN TINBERGEN, *International Economic Integration*, Amsterdam, Elsevier 1954, p. 95.

definition, if used consistently, would actually correspond to total integration in Schneider.

In view of the conflicting nature of the widely used concepts, there is need for a consistent definition which would appropriately delineate the field of economic integration. We will endeavor to provide such a definition in the following.

The inclusion of social processes in the concept of economic integration by KINDLEBERGER[9] and MYRDAL points to the importance of social factors in destroying non-economic barriers between communities, races, and social strata. Nevertheless, if the equalization of factor prices were regarded as a condition of economic integration, the scope of this definition would be unduly restricted by excluding free trade areas, customs unions and common markets where factor prices are not equalized. Social integration and the concomitant equalization of factor prices are necessary for total integration, yet the removal of trade barriers in a customs union is an act of economic integration even in the absence of developments in the social field. Consequently, although social integration gains in importance as the unification of national economies proceeds, it is not necessary for the lower forms of economic integration, and it need not be included in our definition.

Objections can also be raised to the inclusion of national integration in the concept. In the present-day world, the problems relating to integration on the national and international level differ to a considerable degree. In the former case, the barriers between economic units are mainly of a social, educational, or psychological character (the caste system, the lack of common values, the absence of risk-taking, etc.), and these obstacles may be stronger between various social strata of the same region than between regions[10]. One of the main instruments of national economic integration appears to be the creation of a strong national state[11]. The emergence of national

9. The author is thankful to Professor KINDLEBERGER for the opportunity to consult his memorandum, "Notes on the Integration of the Free World Economy" (1953).

10. The importance of an economic barrier, the lack of suitable transportation facilities, should also be added. This latter restricts economic intercourse between regions.

11. This latter point is emphasized also by MYRDAL (*The International Economy*, pp. 200–202).

states, however, creates artificial barriers between independent economies in the form of tariffs, quantitative trade and exchange restrictions, impediments to the mobility of labor, capital and entrepreneur, etc.[12]. In addition, economic intercourse between nations is also hindered by national economic policies, fiscal, social, and monetary measures. National economic integration, then, gives rise to discrimination between economic units of independent countries, and thereby contributes to disintegration on the international scene. On the other hand, international economic integration leads to the abolition of some of the negative aspects of national integration. In view of these differences, it appears advisible to restrict the use of the concept of economic integration to denote integration on the international level.

Excluding national integration from the concept, we can define economic integration as a process and as a state of affairs. Regarded as a process, it encompasses various measures abolishing discrimination between economic units belonging to different national states; viewed as a state of affairs, it can be represented by the absence of various forms of discrimination between national economies[13].

In interpreting our definition, distinction should next be made between integration and cooperation. The difference is qualitative as well as quantitative. Whereas cooperation includes various measures designed to harmonize economic policies and to lessen discrimination, the process of economic integration comprises those measures which entail the suppression of some forms of discrimination. For example, international agreements on trade policies belong to the area of international cooperation, while the abolition of trade restrictions is an act of economic integration. Distinguishing between co-

12. One should note here the similarity between the present-day integration of national economies and the development of national states from formerly independent economic and political units up to the XIXth century, when this development required the abolition of tariff-walls, of restrictions on labor-movements, etc. In the present underdeveloped countries, however, these artificial obstacles are of minor importance.

13. It should be noted that this definition is based on the implicit assumption that discrimination actually affected economic intercourse. The suppression of tariff barriers between Iceland and New Zealand, for example, will not integrate the two economies in the absence of a substantial amount of foreign trade, since without trade-relations there was no effective discrimination anyway.

operation and integration, we put the main characteristics of the latter—the abolition of discrimination within an area—in clearer focus and it becomes possible to give the concept definite meaning without unnecessarily diluting it through the inclusion of diverse actions in the field of international cooperation.

Economic integration as a process, then, represents various measures leading to the suppression of discrimination between economic units of national states, and the resulting forms of economic integration can be characterized by the absence of discrimination in various areas. The meaning of this concept is not restricted to total integration but encompasses various forms of integration, such as a free-trade area, a customs union, a common market, an economic union, and complete economic integration. Thus the above definition carves out a well-distinguishable part of international economic problems as the area of economic integration; it avoids the excessive generality of the terms used by e.g., TRIFFIN and SCHNEIDER, and it includes TINBERGEN's concept as a special case.

Using the definition given above, the theory of economic integration will be concerned with the various forms of integration, the measures required for accomplishing these objectives, the economic effects of integration, and problems of optimization in an integrated area. The theory of economic integration can be regarded as a part of international economics, but it also enlarges the field of international trade theory by considering factor-movements, the coordination of economic policies, etc., which are not discussed in traditional theory.

The various forms of economic integration represent varying degrees of integration. In a free trade area, tariffs (and quantitative restrictions) between the participating countries are abolished, but each country retains its own tariffs against non-members. The establishment of a customs union involves, besides the suppression of discrimination in the field of commodity movements within the union, the creation of a common tariff wall against non-member countries. A higher form of economic integration is attained in a common market, where not only trade restrictions but also restrictions on factor movements are abolished. An economic union, as distinct from a common market, combines the removal of restrictions on commodity and factor movements with a degree of harmonization of economic,

monetary, fiscal, social, and countercyclical policies. Finally, total economic integration presupposes the unification of economic, fiscal, etc. policies and requires the setting up of a supranational authority whose decisions are binding for the member-states[14].

Location Theory and Economic Integration

As it is well known, the traditional theory of international trade neglected the spatial element, and in the RICARDO-MILL-MARSHALL-HABERLER theory, trade takes place between countries which are regarded as having no spatial dimensions. During the thirties, OHLIN proposed the incorporation of international trade theory in a general location theory[15], but he has not accomplished this task, mainly because his treatment of regions does not differ materially from that accorded to countries in traditional trade theory. Further efforts towards the creation of a general location theory have been made by LÖSCH[16], ISARD[17], and others[18]. ISARD conceives the general theory of location and space-economy as "embracing the total spatial array of economic activities, with attention paid to the geographical distribution of inputs and outputs and the geographic variations in prices and costs"[19].

International trade theory, then, can be regarded as a special case of general location theory. "One proceeds from the latter to the former by assuming a given locational structure of economic activities, by erecting appropriate barriers within the world economy to

14. The reader is reminded here of the need for social integration to accomplish total integration. Some degree of social integration is also necessary to induce labor movements.

15. BERTIL OHLIN, *Interregional and International Trade*, Harvard University Press, Cambridge 1933, p. vii.

16. AUGUST LÖSCH, *The Economics of Location*, New Haven: Yale University Press, 1954.

17. WALTER ISARD, *Location and Space Economy*, The Technology Press and Wiley, New York 1956.

18. For a recent treatment of the theoretical problems involved, see LOUIS LEFEBER, *Allocation in Space*—production, transport and industrial location. Amsterdam: North Holland, 1958.

19. WALTER ISARD, "The General Theory of Location and Space Economy", *Quarterly Journal of Economics*, November 1959, p. 505.

correspond to the boundaries of nations...[20]. Tariffs and other trade restrictions appear as additional costs of the transfer of goods from one country to another. Or, as BASTIAT expressed it a century ago, "un droit de douane, c'est un anti-chemin de fer". Putting it in a slightly different form, we may distinguish between geographic and tariff-protection of industries, where the former is a result of natural, and the latter of artificial, barriers. LÖSCH[21] has given ingenious expression to the role of location in trade, emphasizing the continuously decreasing impact of any market on productive activity as we move away from the center. If we assume the existence of a small number of industrial centers, the area of attraction of any center can be visualized as a hexagon, when artificial barriers distort this configuration. Thus, international trade between e.g., Germany and France cannot be conceived as trade between two homogeneous areas because, economically, two border-towns of these countries will have more common characteristics than have a French border-town and Paris[22].

To repeat, modern location theorists regard international trade theory as a part of general location theory when tariffs appear as an additional element of the cost of transfer of inputs and outputs. The theory of economic integration, then, could also be regarded as a special case of location theory, since it would be designed to examine the effects of the abolishment of trade barriers between the participating countries on location and production specialization[23]. Such a view, however, appears to be unduly narrow. It may sound paradoxical, but the findings of modern location theory can be better applied to international trade and to problems of economic integration in the setting of the pre-First World War period than in our times. Before 1913, government policies other than commercial policy had only a slight effect on industrial location. Under these conditions, tariff barriers could have been regarded simply as additional elements in the cost of transfer. Since then, however, the augmented scope of govern-

20. *Ibid.*

21. *Location and Space Economy*, p. 57.

22. AUGUST LÖSCH, "A New Theory of International Trade". *International Economic Papers*, Vol. 6, pp. 50–65.

23. For such a conception of the theory of economic integration, cf. A. PREDÖHL, "Weltwirtschaft in räumlicher Perspektive". *Economia Internazionale*, November 1950, pp. 1044–1065.

ment intervention and increased uncertainty in international trade relations resulting from the intensification of nationalistic tendencies have acquired importance. As NURKSE rightly expressed: "National frontiers as such are basically irrelevant to economic analysis; it is only government policies that make them relevant[24]." Consequently, location theory which disregards the impact of monetary, fiscal, etc. policies on economic activity, and attempts to reduce all elements of discrimination to differences in transfer costs, will supply only part of the answer. The theory of economic integration cannot restrict itself to the locational aspects of the abolition of trade barriers, but must also examine the impact of government policies on economic activity inside of the union; it must consider the need for the coordination of these policies and the impact of the removal of uncertainty existing in economic intercourse between independent national economies.

The "Liberalist" and the "Dirigist" Ideal of Economic Integration

The recent interest in economic integration has prompted various proposals concerning the means and objectives of integration. Two extreme views—an all-out liberalist and a planned solution—will be contrasted here. The champions of economic liberalism regard regional integration as a return to the free trade ideals of the pre-First World War period within the area in question, and anticipate the relegation of national economic policy to its pre-1914 dimensions. If this approach is followed, integration simply means the abolition of impediments to commodity movements. At the other extreme, integration may also be achieved through the coordination of national economic plans, without the lifting of trade barriers if trade is based on bilateral agreements[25]. This alternative discards the use of market methods and relies solely on administrative, non-market means. It can be found in the integration projects of Soviet-type eco-

24. RAGNAR NURSKE, "Domestic and International Equilibrium" in *The New Economics*, ed. by S. E. Harris, New York: Knopf, 1952, p. 265.

25. For a more detailed consideration of these two alternatives, see KARL ALBRECHT, *Probleme und Methoden der wirtschaftlichen Integration.* Kieler Vorträge. Kiel 1951; and H. GIERSCH, "Libéralisme, dirigisme et intégration économique de l'Europe", in *Demain l'Europe sans frontières* (Paris: Plon, 1959), pp. 69–90.

nomies; the operation of the Council of Mutual Economic Aid, comprising the Soviet Union and her European satellites is based on the coordination of bilateral trade agreements and longer-range plans. A similar method, but one which put more reliance on market means, was used by Germany during the last war. Dirigistic tendencies, however, appear also in the writings of some Western authors.

Among the proponents of the liberalist solution, ALLAIS, RÖPKE and HEILPERIN may be cited. They regard economic integration as identical with trade (and payments) liberalization. ALLAIS asserts that "practically, the only mutually acceptable rule for close economic cooperation between democratic societies is the rule of the free market"[26]. RÖPKE is of the opinion that European economic integration is nothing else than an attempt to remedy the disintegration of the post-1913 period which destroyed the previous integration of national economies[27]. A less intransigent position is taken by HEILPERIN, who rejects the consideration of regional development plans and subsidies to industries for reconversion purposes, but accepts state responsibility for investment decisions in certain areas[28]. To the majority of observers, however, the liberalist ideal of integration is a relic from the past, and its application to present-day economic life appears rather anachronistic. As Jean WEILLER put it, "it would be a great error to believe that the decision to create a regional union would re-establish the conditions of an economic liberalism, extirpating by one stroke all so-called dirigistic policies"[29].

It can rightly be said that considerations such as the avoidance of depressions, the maintenance of full employment, the remedying of the negative effects of integration on dislocation of economic activity, the problem of regional development, the regulation of cartels and monopolies, etc. require state intervention in economic life, and any

26. M. ALLAIS, "Fondaments théoriques, perspectives et conditions d'un marché commun effective", *Revue d'Economie Politique*, January/February 1958, p. 65.

27. W. RÖPKE, "Integration und Disintegration der internationalen Wirtschaft", in *Wirtschaftsfragen der freien Welt* (Erhard-Festschrift), Frankfurt 1957, p. 500.

28. M. HEILPERIN, "Freer Trade and Social Welfare", *International Labour Review*, March 1957, pp. 173–192.

29. J. WEILLER, "Les objectifs économiques d'une coopération durable", *Economie Appliquée*, October–December 1953, p. 579.

attempts to integrate national economies would necessarily lead to harmonization in various policy areas. This idea is not new. The need for the coordination of fiscal, monetary, social, and countercyclical policies was stressed by the United Nations publication on customs unions published immediately after the end of the Second World War[30]. Professor VINER in his classical work on customs unions also emphasized the need for coordination of economic policies in a customs union[31]. In fact, the question is not whether government intervention is needed or not in an economic union, but whether economic integration results in a more intensive participation of the state in economic affairs or in a more intensive reliance on market methods.

Some authors advocate an intensification of state intervention in economic affairs. THOMAS BALOGH, for example, considers economic integration a road toward more planning and less use of the market[32]. The need for economic planning in a union is emphasized by ANDRÉ PHILIP and by other French socialists. In PHILIP's opinion "there is no alternative to a directed economy" since "the market can be extended not by liberalizing but by organizing"[33]. Although he is not an advocate of centralized planning, the stepping-up of state intervention is also recommended by MAURICE BYÉ, who contrasts his "integration theory" with HEILPERIN's "market theory"[34]. Considering the pronouncements of French economists and industrialists, it can be said that in general the French view of economic integration contains more dirigistic elements than, for example, that of most German economists and entrepreneurs[35].

The defenders of dirigistic tendencies fail to consider, however, the lessening of planning and government intervention—and the beneficial effects thereof—in Europe since the end of the Second World

30. *Customs Unions*, pp. 63–74.

31. *The Customs Union Issue*, p. 136.

32. *The Dollar Crisis*, Oxford, Blackwell, 1949, p. 62.

33. "Social Aspects of European Economic Cooperation", *International Labour Review*, September 1957, p. 253.

34. "Free Trade and Social Welfare, Comments on Mr. Heilperin's Article", *ibid.*, February 1958, pp. 38–47.

35. Cf. ANDRÉ MARCHAL, "Marché commun européen et zone de libre échange", *Revue Economique*. March 1958, pp. 264–265, and K. ALBRECHT, "Gemeinsamer Markt und Freihandelszone im Urteil deutscher Wirtschaftskreise", *Aussenwirtschaft*, September 1957, pp. 154–169.

War. Although this change does not indicate a return to the pre-1914 situation, it brought about an increased use of the market mechanism and can be held responsible for the spectacular growth of the European economy in recent years. It appears, then, that a reintroduction of dirigist methods would slow down rather than accelerate further growth. State intervention may be stepped up in some areas, such as regional development planning, and will also be required to deal with transitional problems, but it is expected that an enlargement of the economic area will intensify competition and lead to less interference with productive activities on the firm level. Therefore, those who regard the European Common Market as a "marché institué[36] err in the opposite direction from the holders of old-fashioned liberalist views.

But a higher degree of government intervention is likely to be necessary and desirable on Latin American integration projects. This reflects the proposition that present-day underdeveloped countries need more state interference in economic affairs than do advanced economies, since, in the former, market incentives are often not conducive to development. Nevertheless, the role of private enterprise is emphasized in most discussions on Latin American integration[37] and the sphere of government decision-making may well diminish as development proceeds.

The Absolutist versus the Relativist Approach

Since the publication of Professor VINER's *The Customs Union Issue*[38], various arguments have been raised against the formation of regional unions. First, it has been contended that instead of removing trade barriers between a limited number of countries, we should move directly to world-wide free trade[39]. Second, it has been argued that the establishment of regional unions may lead to more trade diversion

36. H. GUITTON, "L'Europe et la théorie économique", *Revue d'Economie Politique*, January–February 1958, pp. 324–339.

37. Cf., e.g., *The Latin American Common Market*, pp. 31, 125.

38. New York, Carnegie Endowment for International Peace, 1950.

39. *The Customs Union Issue*, p. 139, and GOTTFRIED HABERLER, "Defects in the Concept of Regionalism to Solve Trading Problems", *Indian Journal of Economics*, July 1957, pp. 25–30.

(reduction in trade between the union and the outside world) than trade creation (increase in trade among participating countries)[40]. Third, the argument has been advanced that regional unions would impede trade liberalization on a larger scale by creating a sheltered high-cost area with protectionist tendencies[41].

With respect to the first argument, it can be stated that both the holders of the "absolutist" view and most protagonists of the "relativist" position would agree on the desirability of the world-wide removal of tariff barriers as a final objective. If factor endowments, including skills, are given, and there is little government interference in economic life, then, with certain qualifications, an efficient allocation of resources is reached under world-wide free trade. Efficient resource allocation, however, does not necessarily correspond to the optimal exploitation of growth potentialities, since changes in resource endowments will significantly alter comparative cost-relationships, especially in the case of large differences in income levels between countries. Dynamic considerations may warrant the temporary application of protectionist measures, and the inefficiencies of protectionism would be reduced as the size of the protected area increases. This reasoning can be applied, for example, to the integration projects of the Latin American countries where economic development is the main issue.

The argument for universal free trade is also based on a limited degree of state intervention in economic affairs. Given the present scope of governmental economic policies, an optimal allocation of resources would not come about in a regime of free trade, since divergences in monetary, fiscal and, partly, social policies would distort competitive cost relationships. Thus a certain degree of harmonization in economic policies becomes necessary. This, however, is not feasible for the world as a whole, not only because world-wide machinery would be cumbersome and inefficient, but also because coordination of economic policies amounts to abandonment of sovereignty to an extent which is unlikely to be undertaken—at least for the near future—in favor of a world organization. On the other hand, more far-reaching results can be attained within a smaller group of

40. *The Customs Union Issue*, pp. 52–53; G. HABERLER, *op. cit.*

41. *The Customs Union Issue*, p. 139, WILHELM RÖPKE, "Gemeinsamer Markt und Freihandelszone", *Ordo*, 10, Band 18, p. 51.

countries. A union of adjacent countries could possess the sentiment of solidarity a larger group would not muster. The mutual benefits derived from a regional solution can also be more easily appraised. Finally, it is likely that governments will have less difficulty resisting special interests when the advantages of economic integration are more directly seen in other sectors.

These considerations indicate the desirability of economic integration within a regional framework. The expedience of such a proposal has been criticized, however, by referring to the possible trade-diverting effects of a union. The extent of trade creation and trade diversion cannot be determined *a priori*. In the case of adjacent countries, the author believes that trade creation is likely to outweigh trade diversion. To argue in reverse, no one would insist that the continental United States should be broken up into 48 sovereign states, creating the same tariff barriers between the states as the United States has around herself in order to avoid the diversion of trade[42]. In addition, even if the immediate effect of the union was, on balance, trade diverting, increased income in the union and other dynamic factors could benefit the world in the long run[43].

It is not to be denied that a union might lead to autarky if protectionist tendencies predominate. Protectionist interests, for example, may see the possibility of creating an autark block in an integrated area, while autarky would not have been possible in smaller national units. It is often noted that while Soviet Russia's economy is largely self-sufficient, for Switzerland or Sweden foreign trade is absolutely essential. Integration in Western Europe, however, has developed in a different direction. In the case of the European Payments Union, the pessimistic anticipation of some economists has been disproved

42. For an interesting mental experiment along these lines, see "Los Estados Unidos 'Desunidos'". Appendix to J. L. SAMPEDRO, "Principales efectos de la unidad económica europa", in *Estudios sobre la Unidad Económica de Europa*, VI. La localización de las actividades económicas en Europa después de la integración unitaria, Madrid 1957, pp. 691–705.

43. In regard to the European Common Market, Professor HABERLER notes that the "income-effect" may outweigh the "substitution-effect". (Die wirtschaftliche Integration Europas, in *Wirtschaftsfragen der freien Welt* [Erhard-Festschrift], Frankfurt, 1959, p. 525.) See also the review of ERDMAN and ROGGE: *Die Europäische Wirtschaftsgemeinschaft und die Drittländer* (Tübingen/Basel 1960), in this issue.

by the fact that the exports of its member-countries to the dollar area increased considerably more than trade among the participating countries themselves[44]. A considerable expansion of foreign trade has taken place, too, in the Benelux and the European Coal and Steel Community. In general, a union will not become a sheltered high-cost area as long as the beneficial effects of the removal of trade barriers between the participating countries are not counteracted by raising tariffs toward third countries or by restricting competition within the area. Competition between the firms of member-countries will not fail to reduce costs, and the freeing of factor movements in a common market will also contribute to this result.

The optimistic conclusions about European economic integration cannot be immediately extended to Latin America. Protectionist tendencies appear, for example, in the proposal prepared by the United Nations Economic Commission for Latin America, aiming at the establishment of a free-trade area with the participation of all Latin American countries. By postponing the removal of internal tariffs on non-durable consumer goods, the trade-creating effects of integration would be greatly reduced in this region. On the other hand, the provisions of the Montevideo treaty and the agreement establishing the Central American customs union conform reasonably well to the GATT principles.

The above arguments imply that the absolutist view unduly neglects the favorable possibilities of regional integration. In the present state of the world, the regional solution would contribute to an increase of world welfare, since integration represents the "stretching" of frontiers and the suppression of discrimination resulting from trade barriers and national economic policies among the participating countries. Also, the formation of customs and economic unions is not incompatible with multilateral liberalization, and economic and political necessities point to the combined application of regional and multilateral measures instead of the exclusion of either of the two.

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44. Cf. ROBERT TRIFFIN, *Europe and the Money Muddle*, New Haven, Yale University Press, 1958, p. 265.

SUMMARY

The author discusses certain deficiencies and inconsistencies in the current definitions of the term "economic integration" and endeavors to provide a consistent definition of this concept. In addition, he examines some conflicting views on the means and objectives of integration and on its probable effects.

Economic integration as interpreted here refers to international integration and is defined as the suppression of discrimination between the economic units of different countries. This discrimination has resulted from the existence of independent national economies and takes the form of tariffs, quantitative and exchange restrictions, impediments to factor mobility, national monetary and fiscal policies, etc. The various forms of integration, such as free trade areas, customs unions, common markets, economic unions and total integration are defined with respect to the different types of discrimination abolished. The relationship between the theory of economic integration and location theory is also discussed.

The author contrasts the "liberalist" and the "dirigist" ideal of economic integration and reaches the conclusion that, although state intervention may be stepped up in some areas, such as regional development planning, the enlargement of the economic area is expected to intensify competition and will lead to less interference with productive activities on the firm level.

In the second part of the paper, the author examines various arguments raised against the formation of regional unions. These are: the superiority of the multilateral approach, the trade diversion effect of the union and the possible creation of a sheltered high-cost area. In regard to the first objection the author notes that, given the present state of government intervention in the economic life and the existing nationalistic tendencies, universal free trade is not a feasible solution. It is furthermore argued that, in the case of adjacent countries, trade creation is liable to outweigh trade diversion, and, at least in Europe, protectionist tendencies are not likely to prevail.

ZUSAMMENFASSUNG

Auf dem Wege zu einer Theorie der wirtschaftlichen Integration. Der Verfasser diskutiert vorerst einige Mängel und Widersprüche der heute gebräuchlichen Definitionen des Begriffs «wirtschaftliche Integration» und versucht anschliessend, zu einer konsistenten Definition zu kommen. Ausserdem werden einige gegensätzliche Ansichten über die Mittel und Ziele wirtschaftlicher Integration sowie über ihre wahrscheinlichen Folgen behandelt.

Wirtschaftliche Integration bezieht sich auf *internationale* Wirtschaftsintegration und wird als Beseitigung von Diskriminierung zwischen den wirtschaftlichen Einheiten verschiedener Länder definiert. Diese Diskriminierung entstand ursprünglich aus der Existenz unabhängiger Nationalwirtschaften; sie äusserte sich in Form von Zöllen, Handels- und Wechselkursbeschränkungen, Hinder-

nissen für Faktormobilität, Verfolgen nationaler Geld- und Finanzpolitik usw. Die verschiedenen Arten der Integration, wie Freihandelszonen, Zollvereine, gemeinsame Märkte, Wirtschaftsgemeinschaften und totale Wirtschaftsintegration, werden im Hinblick darauf untersucht, welche Art von Diskriminierung beseitigt wurde. Weiterhin wird der Zusammenhang zwischen der Theorie der wirtschaftlichen Integration und der Standorttheorie diskutiert.

«Dirigistische» und «liberale» Konzeption der wirtschaftlichen Integration werden einander gegenübergestellt. Es wird die Ansicht vertreten, dass trotz einer notwendigen Ausweitung staatlicher Interventionen in einigen Sektoren (zum Beispiel regionale Entwicklung) die Ausweitung des Wirtschaftsgebiets zu einer Intensivierung des Wettbewerbs und damit zu geringerer staatlicher Einwirkung auf Unternehmensebene führen wird.

Im zweiten Teil der Untersuchung behandelt der Autor verschiedene Argumente, die gegen die Gründung regionaler Wirtschaftsunionen erhoben werden. Im wesentlichen sind dies: die angebliche Überlegenheit multilateraler weltweiter Vereinbarungen, der mögliche Effekt der Handelsumlenkung und die mögliche Schaffung protektionistischer Schutzräume. Zum ersten Argument wird dargelegt, dass im Hinblick auf das gegenwärtige institutionelle Rahmenwerk des Welthandels ein universeller Weltfreihandel eine unrealistische Lösung darstellt. Weiterhin wird angeführt, dass im Falle benachbarter Länder der handelsschaffende Effekt einer Wirtschaftsgemeinschaft den handelsumlenkenden Effekt überwiegen wird und dass – jedenfalls in Europa – protektionistische Tendenzen wahrscheinlich nicht vorherrschen werden.

Résumé

Vers une théorie de l'intégration économique. L'auteur cherche à démontrer que les définitions courantes du terme «intégration économique» sont, à bien des égards, insuffisantes. Aussi s'efforce-t-il d'en donner une définition susceptible d'englober les multiples aspects du problème. En outre, il soumet à un examen sévère bon nombre d'opinions contradictoires sur les moyens et le but de l'intégration, ainsi que les conséquences qu'elle pourrait avoir.

L'intégration économique telle qu'elle est interprétée ici est étroitement liée à l'intégration internationale et, de ce fait, tend à supprimer les discriminations entre les unités économiques de différents pays. Ces discriminations, dues à l'existence d'économies nationales indépendantes, ont pris la forme de droits douaniers et de restrictions des échanges et des cours du change, ainsi que de mesures dictées par une politique fiscale et monétaire d'orientation nationale, etc. L'auteur examine quelles discriminations ont été abolies par les différentes formes d'intégration: zones de libre-échange, unions douanières, marchés communs, communautés économiques et intégration économique totale. Les rapports existant entre la théorie de l'intégration économique, d'une part, et la théorie de la localisation, d'autre part, sont également discutés.

Opposant les conceptions «dirigistes» aux conceptions «libérales» d'une intégration économique, l'auteur conclut que quoique l'ingérence des autorités puisse prendre une plus grande importance dans certains secteurs (par exemple le développement régional), l'élargissement des zones de l'économie entraînera sans doute l'intensification de la concurrence, réduisant ainsi l'influence de l'Etat sur l'initiative privée.

La deuxième partie de l'article est entièrement consacrée à l'examen de nombreux arguments soulevés contre la formation d'unions régionales. Il s'agit notamment de la soi-disante supériorité de conventions multilatérales, du risque d'un détournement du courant des échanges et de la création éventuelle d'une zone protectionniste. En ce qui concerne la première objection, l'auteur estime qu'étant donné l'importance actuelle des interventions de l'Etat dans la vie économique ainsi que des tendances nationalistes, le libre-échange universel représente une solution peu réaliste. L'auteur conclut que pour les pays voisins l'effet de stimulation du commerce d'une union économique s'avérera sans doute plus puissant que son effet de détournement du courant des échanges et que – du moins en Europe – les tendances protectionnistes ne pourront guère s'imposer.

THE EFFECTS OF INDUSTRIALIZATION ON EXPORTS OF PRIMARY-PRODUCING COUNTRIES[1]

1. The "Export Lag"

There has been much discussion in recent years about the extent and causation of the "lag" in world trade in primary produce compared with that in manufactured goods. More specifically, the discussion has focussed on the "lag" in exports from the primary-producing countries, other than the oil countries, compared with those from the industrial countries. The salient facts are now well known as a result of recent studies, particularly those of GATT[2] and the United Nations[3]. The GATT analysis shows that from 1928 to 1955, the volume of exports from both industrial and non-industrial countries rose by nearly 40 per cent, but if petroleum is excluded the rise in exports from the latter group of countries was under 20 per cent. Further evidence of the "export lag" over the past 30 years is shown by the fall in the percentage share of the non-industrial countries in world exports If the oil countries are included, the percentage fell only marginally from 34 in 1928 to 31 in 1957; but excluding the oil countries, the fall was from 32 to 24 per cent over the period[4].

The slower growth in exports from primary-producing countries than in exports from industrial countries has been even more marked over the past decade. However, the growth of intra-trade among industrial countries in the early 1950's undoubtedly contained an important "once-for-all" element due to recovery from war devastation and economic dislocation, and the comparison made in the GATT

1. A paper read to the Cardiff meeting of the British Association, Summer, 1960. The author is much indebted to Professors E. DEVONS and A. W. PHILLIPS and to Messrs. C. T. SAUNDERS, H. STAEHLE, D. A. ROWE and C. B. WINSTEN for their comments on an earlier draft; and to Mr. R. W. THOMAS for assistance in the preparation of the statistical data.

2. *International Trade*, 1956 and subsequent years, GATT, Geneva.

3. See, in particular, *World Economic Survey, 1958*, United Nations, New York and *Economic Survey of Europe, 1957*, United Nations, Geneva.

4. *Trends in International Trade*, GATT, Geneva, 1958.

reports is likely to be the more meaningful as an indication of the long-term trends.

Accepting the "export lag" as fact, what have been the causal influences at work? Various answers to this question have been given, and these can conveniently be grouped according to whether they place emphasis on a deficiency in world demand for the exports of the primary-producing countries, or on a deficiency in the supply of those exports to the world market.

(a) *Demand-deficiency*

Perhaps the most powerful advocate of the demand-deficiency theory was the late Professor R. NURKSE. In his last discussion of the problem[5], NURKSE argued that the lag in exports of the less developed countries was "mainly a reflection of relative sluggishness in external demand emanating from the great industrial consumers"[6]. The causes of this sluggish growth in the demand for imports of primary products on the part of the industrial countries has also been the subject of several empirical studies in recent years[7]. The principal factors at work appear to have been (1) a shift in the pattern of output in the industrial countries in favour of engineering, chemicals and other industries and services, which have a low import-content, relatively to textiles and other industries which have a high import-content; (2) agricultural protectionism in the industrial countries, which has proved in practice more difficult to reduce than trade restrictions on manufactures; (3) a secular trend towards reduced usage of primary materials per unit of output of manufactures; and (4) a substantial substitution of synthetics for imported natural materials.

NURKSE did not, however, deny that in some countries domestic policies have resulted in restrictions on supplies of primary produce for export. But he considered that such policies in certain cases were themselves reactions to unfavourable demand conditions in the export market[8].

5. R. NURKSE, *Patterns of Trade and Development*, The Wicksell Lectures, 1959, Stockholm.

6. *Ibid.*, p. 26.

7. See, for example, recent annual reports of GATT and "The Demand for Industrial Materials, 1950–1957" in *The National Institute Economic Review*, No. 5, September 1959.

8. *Op. cit.*, p. 26.

(b) *Supply-deficiency*

The opposing view, that the failure of primary-producing countries to expand their exports more rapidly is due to the process of industrialization, is a more traditional one and is still fairly widely held. In its cruder form, the argument is that industrial growth in these countries will involve the consumption of greater quantities of their own agricultural produce, thus restricting supplies for the export market[9]. This line of thought, however, ignores the influence of price increases in stimulating the output of primary products.

A more sophisticated argument in general support of the supply-deficiency viewpoint has recently been expressed by Professor A. K. CAIRNCROSS[10], who points out that the failure of industrial countries to expand their imports of primary products in proportion to their economic growth, or their consumption of manufactures, must have been due, in part at least, to the price factor. The prices of exports from the non-industrial countries have, in fact, risen since pre-war by half as much again as the prices obtained by industrial countries for their exports of primary produce[11]. The sharper rise in prices of exports from the non-industrial countries, Professor CAIRNCROSS argues, "reflected the acute pressure on supplies of primary produce in a fully-employed economy—a pressure that continued because of the low elasticity of supply of this produce". Professor CAIRNCROSS further argues that this low elasticity was "aggravated by the concentration of effort in many under-developed countries on industrialization rather than agricultural development".

The various theoretical arguments have been considerably illumined in recent years by the very valuable statistical analyses of world trade movements to be found in the annual reports of GATT.

9. This was, for example, the argument put forward by the Economics Committee of the Royal Commission on Population (*Report of the Economics Committee*, HMSO, London 1950, p. 13).

10. A. K. Cairncross, "International Trade and Economic Development" (*Kyklos*, Vol. XIII, 1960, Fasc. 4).

11. According to estimates made by the present author, the unit value index for exports of primary produce from the main industrial countries was 205 in 1957 (1937 = 100), whereas the corresponding index for exports from non-industrial countries in 1957 was 335. The latter includes a small proportion of manufactured goods, but this does not seriously affect the result.

The 1955 GATT report included a detailed statistical analysis of the factors on the demand side which were mainly responsible for the "export lag" of the primary producing countries[12]; but the expanded analysis in the subsequent reports supported the view that the lag in exports was due, in part at least, to the process of industrialization in the primary-producing countries. This more recent analysis is of considerable importance, since it is so far the only comprehensive statistical analysis of the problem that has been available. Moreover, if its conclusion is generally valid, the implications are particularly serious for those under-developed countries now in an early phase of industrialization.

However, it is the main purpose of the present article to show that the GATT analysis does not take sufficiently into account some major factors—particularly on the demand side—which influence an industrializing country's exports, and that when these are included in the analysis the trend of development appears to fit in more closely with NURKSE's line of argument than with that put forward by CAIRNCROSS.

2. *The GATT Analysis*

The 1956 GATT Report contains a detailed analysis of the position in world trade of industrializing countries outside Europe, Japan and North America[13]. For this purpose, eight countries (Argentina, Brazil, Mexico, Australia, India, South Africa, Finland, and Yugoslavia) were taken as the group of "semi-industrialized" countries, and their collective trading experience was compared with that of the rest of the non-industrial world. The main results are summarised in Table 1.

Thus, the fall in the share of the non-industrial areas in world trade since 1938 was attributable entirely to the reduced relative importance of the exports of the semi-industrial countries. This, in turn, reflected a fall in the volume of exports to industrial countries. By contrast, the non-industrial countries were exporting nearly 60 per cent more, in volume, in 1955 than in 1938. After examining the development of agricultural, mining and industrial production in different countries, the report concluded that the failure of the exports

12. *International Trade*, 1955, GATT, Geneva (1956), especially pp. 6–15 and 206–211.

13. *International Trade 1956*, GATT, Geneva (June 1957).

Table 1

Exports from Semi-Industrial and Non-Industrial Countries: 1938 and 1955

Exports from	1938	1955	1955 volume index
	(Per cent of world export)		(1937–38 = 100
Semi-industrial countries .	11.7	9.8	95
Other non-industrial countries	26.1	26.3	158
Total, non-industrial countries	37.8	36.1	134

Sources: Based on Tables 3 and 4 of *International Trade 1956*.

of the semi-industrial countries to expand at a fast rate was closely connected with the rapid growth in their industrial activities[14].

The analysis was considerably developed in the two subsequent annual Reports of GATT; in particular, by an attempt to include in the analysis both the effects of trade discrimination by importing countries, and the effects of differences in the commodity-pattern of exports of the main industrializing countries. As regards the former, the extremely useful concept of "shelter" was introduced[15]. A sheltered country is defined as one enjoying a privileged position in its main export market; conversely, an unsheltered country enjoys no special privilege of entry in its main export market, but may well be discriminated against by one method or another. As regards the latter, non-industrial countries were grouped according to their main export products.

For each group of countries classified in this way the increase in total export proceeds since 1928 was calculated in terms of US dollars. A summary of the results is given in Table 2.

14. *Ibid.*, pp. 16/17.

15. This concept is, in fact, the same as the "regional trading" discussed in the earlier GATT Report for 1953.

Table 2

Indices of Export Proceeds of Countries Grouped According to Commodity Composition, Presence or Absence of Shelter and Degree of Industrialization (Indices 1928 = 100)

Countries Exporting Mainly	Year	Unsheltered		Sheltered	
		Semi-Industrial[1]	Other	Semi-Industrial[2]	Other
Non-tropical foods . . .	1937	75	–	–	96
	1950	107	–	–	206
	1956	93	–	–	276
Agricultural raw materials	1937	–	84	73	106
	1950	–	164	173	243
	1956	–	187	184	277
Tropical foods	1937	74	64	–	90
	1950	284	287	–	280
	1956	312	403	–	398
Minerals	1937	–	79	84	194
	1950	–	134	230	574
	1956	–	236	393	1,090

Source: Condensed version of Table 5, *International Trade 1957–1958*, GATT.
1. Non-tropical foods—Argentina; tropical foods—Brazil.
2. Agricultural raw materials—Australia, India (including Pakistan), Mexico; Minerals—Union of South Africa.

The sheltered non-industrial countries have clearly done much better than the other groups of countries, except for countries exporting tropical foods. The export performance of the unsheltered semi-industrial countries has been the least satisfactory. The conclusion reached by the 1957/58 GATT Report from this analysis is that "both the stage of industrialization and the presence or absence of shelter seem to affect the course of export proceeds within each of the four commodity groups of countries[16]. Though the Report stresses that there are special factors at work in each country, it concludes that, nevertheless, "such special factors appear not to be strong enough to

16. *Ibid.*, pp. 20–22.

blur completely the effect of the three factors investigated"[17]. This tends to support the conclusion reached in the 1958 Report (the "Haberler Report") that industrialization is a significant factor in the long-term tendency for the exports of the semi-industrial countries to rise more slowly than those of other non-industrial countries.

Though the GATT analysis is extremely useful and interesting for an assessment of the long-term trends, it is subject to two limitations. The first is that the four-fold commodity grouping is so wide as to be of very little use for comparing the export performance of different groups of countries. For example, Table 2 shows a much slower rate of growth in exports from semi-industrialized sheltered exporters of minerals (which group includes only the Union of South Africa) than from the non-industrialized sheltered exporters in that commodity group. The divergence appears to be due mainly to the growth in copper exports from Rhodesia and the Belgian Congo, and it is difficult to see how it can usefully be attributed to industrialization in South Africa. The second limitation is that no allowance has been made for the influence of price changes on the demand for exports of the primary-producing countries. In the following section an attempt is made to build on the GATT analysis by extending it to cover these two points.

3. An Index of World Demand

The first limitation mentioned above can be overcome, in principle, by the construction of an index of world demand for the particular export "bundle" of each industrializing country. This obviates the need for grouping countries according to the nature of their characteristic export product—a procedure which, as indicated above, can be most misleading. In practice, of course, such indices are extremely difficult to construct, because of the scarcity of the relevant statistics, even if we are quite clear what it is we are trying to measure.

Two alternative meanings of "world demand" appear in fact to be relevant to the immediate problem. The first would relate to the movement in world *consumption* of the particular "bundle" of exports from a given country, the second would relate to world *trade* in that

17. *Ibid.*, p. 29.

export "bundle". The "consumption" concept is the fundamental one, and would include both imports into the main industrial areas and the supply of natural and synthetic materials produced in those areas.

However, for many primary commodities, statistical series for world consumption are difficult to collate on a reliable basis, and it was decided to make use instead of the second concept mentioned above, viz. world trade movements, the statistics for which are much more readily available. It should be noted, however, that changes in "demand" in this sense reflect not only changes in consumption but also the effects of competition from natural and synthetic substitutes produced in the industrial countries. Thus, this concept relates essentially to the demand for imported primary commodities into the main industrial countries, though in fact the statistics usually available relate to total world imports (outside the Soviet bloc countries). Moreover, the use of world trade movements as the basis of a demand index implicitly assumes that the exporting country being considered is not the only effective source of supply of its particular export "bundle", so that if its exports are in fact restricted this would not affect the trend in world trade. This corresponds fairly closely to the position for the majority of the countries and commodities included in the present analysis. There are, however, one or two exceptional cases which are mentioned later.

For a selection of eleven industrializing countries, indices of world demand (trade) were calculated for the particular "bundle" of exports of each country, relating the base period chosen (the average of the years 1937 and 1938) with the year 1955. These periods were chosen so as to be comparable with the series given in the "Haberler Report", though the latter also extend back to 1928. The indices relate to both value and volume and cover as large a sample as possible of the primary commodity exports of each country. The indices were calculated on both pre-war and post-war weighting, but only the former set will be presented here. The formulae used are as follows, where small letters p and q represent price and quantity of exports from a given country, respectively, and capitals P and Q represent the corresponding world exports of a given commodity, the subscripts 0 and 1 representing the base and current periods, respectively:

Value index of world demand

$$= \frac{\Sigma p_0 q_0 \cdot \dfrac{P_1 Q_1}{P_0 Q_0}}{\Sigma p_0 q_0} = \frac{\Sigma s_0 \cdot P_1 Q_1}{\Sigma s_0 \cdot P_0 Q_0} \qquad (1)$$

where

$$s_0 = \frac{p_0 q_0}{P_0 Q_0}$$

= country's share of world exports of a given commodity, by value, in the base period.

Volume index of world demand

$$= \frac{\Sigma p_0 q_0 \cdot \dfrac{Q_1}{Q_0}}{\Sigma p_0 q_0} = \frac{\Sigma s_0 \cdot P_0 Q_1}{\Sigma s_0 \cdot P_0 Q_0} \qquad (2)$$

Thus, the index of world demand used here is simply the movement in world exports of the individual primary commodities exported by a given country from 1937/38 to 1955, weighted by the relative importance of each commodity in the country's export trade in the base period. As the formulae show, this can also be looked at as measuring how the exports of each country would have changed over this period, if its share of world exports of each commodity had been the same in 1955 as it had been pre-war. Hence, a comparison of the demand index with a comparable index of actual exports shows to what extent each country has suffered a loss, or enjoyed a gain, of its average pre-war share of the world import market. The indices for actual exports are calculated in the usual way, as follows, using the previous notations:

Value index of actual exports

$$= \frac{\Sigma p_1 q_1}{\Sigma p_0 q_0} \qquad (3)$$

Volume index of actual exports

$$= \frac{\Sigma p_0 q_1}{\Sigma p_0 q_0} \qquad (4)$$

the volume index being base-weighted to maintain comparability with index (2).

4. The Price Effect

The second limiation mentioned above can be overcome by relating the movement in prices of exports from an industrializing country to the corresponding price movements in (a) exports of the same, or closely competing, commodities from other primary producing countries, and (b) supplies of locally-produced natural or synthetic substitutes in the main consuming countries. In order to limit the statistical analysis to within the resources available, the present discussion is confined to (a) above; that is, it is precisely comparable in scope with the concept of world "demand" adopted earlier. More specifically, the price factor used here is defined as the movement in the unit values of exports of primary products from an industrializing country relatively to the unit values of world trade in the same "bundle" of commodities. Using the previous notation, the indices involved in the calculations are defined as follows:

Unit value of world trade (current weighted)

$$= \frac{\Sigma p_1 q_1}{\Sigma p_1 q_1 \cdot \frac{P_0}{P_1}} = \frac{\Sigma s_1 \cdot P_1 Q_1}{\Sigma s_1 \cdot P_0 Q_1} \tag{5}$$

where

$$s_1 = \frac{p_1 q_1}{P_1 Q_1}$$

= country's share of world exports of a given commodity, by value, in the current period.

Unit value of actual exports (current weighted)

$$= \frac{\Sigma p_1 q_1}{\Sigma p_0 q_1} \tag{6}$$

Current weighting has been used so that equation (6) should be "compatible" with equation (4), their product equalling the value index (3). However, though the index for unit value of world trade (5) is also current weighted, it is not "compatible" in the same sense with the volume index (2). Nevertheless, the relative movement of indices (5) and (6) can be taken as indicating whether, and to what

extent, the exports of a given country have become more or less competitive on average, in relation to competing exporters of similar products. It follows from the definitions used, that changes in the competitive position vis-à-vis synthetics or natural products of the consuming countries produced for local consumption are not taken into account. These indices were calculated for 1955 (1937/38 average = 100) for the same 11 countries for which "world demand" indices were computed; as can readily be seen, the unit value series were obtained from the same calculation that provided the "world demand" series.

5. *The Statistical Results*

The main results of the various calculations are given in Table 3. The total indices for each country include various minor items as well as the primary commodity exports shown separately. The relative importance of the sample in total exports varies a good deal; it is highest in Colombia and Brazil, and lowest in Yugoslavia, which has a very diversified export trade. Generally the coverage is reasonably good enough to allow the computed indices to be taken as representative of exports of primary produce from each country in relation to world trade in its particular export "bundle"[18].

Several interesting points emerge from Table 3. Taking first the total export performance of all eleven countries, the table shows that the entire increase in exports earnings[19] was due to price increases;

18. As mentioned earlier, there were one or two cases in which exports from a particular country were taken as representing world demand also. Exports of saltpetre from Chile are counted both in the export index and in the world demand index for that country; an alternative procedure might have been to use world trade in nitrogenous fertilizers for the latter index. The other major case is the export of jute from India and Pakistan, for which the export index and the world demand index is virtually identical; there is no simple alternative here, since a widening of the commodity definition to include close substitutes (e.g. shipping sack paper) would have raised formidable statistical difficulties. To this extent, of course, the export and demand indices are not, strictly speaking, independent variables. However, in both these cases, the offending commodity represents a relatively small proportion of exports.

19. The rise of 183 percent in the value of exports from the 11 countries, shown in Table 3, is practically identical with the GATT figures for 8 semi-industrialized countries, which showed an increase of 184 percent over the same period (*Trends*, etc., p. 24).

the volume of exports in 1955 was not significantly different from the 1937/38 average. Moreover, the increase in export earnings was closely in line with the increase in world trade in the commodities concerned. Over the period covered, the difference between the two value indices was only 3 per cent. In volume terms, there was a larger difference, actual exports falling short of the rise in world trade volume by 6 per cent, but this was partly offset by the fact that unit values of exports from the eleven countries had risen rather more than unit values in world trade for the same commodity "bundles". The greater part of the shortfall in export volume was attributable to Argentina; excluding that country, the volume indices were practically identical (111 for actual exports and 113 for world trade).

However, once we get away from the overall totals, the outstanding feature of Table 3 is the remarkable diversity of experience, between commodities and between countries. In terms of volume, the growth in world trade in petroleum has easily outstripped that in any of the other commodities included in the sample, while trade in hardwood, canned meat and diamonds has also expanded much faster than the average. At the other extreme, world trade in 1955 in maize, linseed, beef, butter, raw cotton and jute was in each case lower than the pre-war volume.

The dispersion in unit values was, however, greater than in volume. The post-war boom in the coffee and cocoa markets brought their prices by 1955 to, respectively, six times, and five times, the pre-war average. Unit values of canned meat, lead, copper and raw cotton had all risen by well above the average rate whereas, apart from the special case of gold, the rise was smallest for wheat, linseed, butter and hardwood, and was also below average for petroleum.

The combination of these very diverse movements in volume and unit value of the different primary products was responsible for extremely great variation in the market opportunities facing the different countries in terms of export income. This ranged from an increase of nearly six-fold in potential export income (as measured by the index for world trade value) for Colombia, and nearly fourfold for Brazil, to one of about 100 per cent for Argentina and New Zealand and about 150 per cent for Australia and India-Pakistan. Colombia's share of world petroleum exports has fallen sharply since pre-war, with the rise in Middle East supplies, but her share of world

Table 3

Changes in the Value and Volume of Selected Exports from the Semi-Industrial Countries Compared with the Changes in World Trade

Country and Commodity	Exports from Country Specified					World Trade		
	Proportion of Total Exports of Primary Products		Indices for 1955			Indices for 1955		
	1937/38	1955	Value[1]	Volume	Unit Value[1]	Value[1]	Volume	Unit Value[1]
	(per cent)		(1937/38 = 100)			(1937/38 = 100)		
Argentina								
Maize	21	3	18	6	300	97	41	237
Wheat (incl. flour)	18	27	234	123	190	251	138	182
Linseed and linseed oil	12	3	40	26[2]	154	116	63	184
Beef	11	9	128	43	298	190	72	264
Wool	9	13	238	69	345	323	117	276
Canned meat	2	7	515	114	452	695	194	358
Total of sample	*84*	*77*	*141*	*62*	*227*	*193*	*88*	*211*
Australia								
Wool	34	44	350	145	241	323	117	276
Wheat (incl. flour)	16	8	147	94	156	251	138	182
Gold	9	1	31	31	100	88[3]	88[3]	100
Butter	6	4	173	100	173	134	69	194
Lead and ores[4]	3	4	305	106	288	312[5]	103[5]	303[5]
Total of sample	*87*	*83*	*253*	*116*	*218*	*255*	*113*	*232*
Brazil								
Coffee	44	59	597	94	635	702	116	605
Cotton	18	9	222	70	317	215	71	303
Cocoa	4	6	654	105	623	520	99	525
Total of sample	*87*	*91*	*463*	*92*	*503*	*486*	*106*	*431*
Chile								
Copper and ores	52	69	385	112	343	422[5]	117[5]	360[5]
Saltpetre	21	12	165	83	199	165[6]	83[6]	199[6]
Total of sample	*77*	*82*	*306*	*99*	*310*	*313*	*101*	*314*
Colombia								
Coffee	65	83	920	140	657	702	116	605
Petroleum	25	11	318	127	250	740	350	211
Total of sample	*98*	*98*	*707*	*132*	*537*	*673*	*173*	*488*
India (incl. Pakistan)								
Cotton	18	11	148	52	285	215	71	303
Tea	13	15	271	121	224	269	111	242
Jute	8	9	268	84	319	222	82	271
Total of sample	*78*	*75*	*230*	*83*	*277*	*244*	*92*	*268*

Sources: Statistics of the Volume, Average Unit Value and Total Value of International Trade in Agricultural Products, Food and Agriculture Organization, Rome, 1956; and national trade statistics.

Only major export items are given separately; minor items are also included in the figures for total sample. The volume indices for the totals have 1937/38 weights and the unit value indices 1955 weights.

1. In terms of US dollars.
2. Estimates based on oil equivalent.

Table 3, continued

Country and Commodity	Exports from Country Specified: Proportion of Total Exports of Primary Products 1937/38	Exports from Country Specified: Proportion of Total Exports of Primary Products 1955	Exports from Country Specified: Indices for 1955 Value[1]	Exports from Country Specified: Indices for 1955 Volume	Exports from Country Specified: Indices for 1955 Unit Value[1]	World Trade: Indices for 1955 Value[1]	World Trade: Indices for 1955 Volume	World Trade: Indices for 1955 Unit Value[1]
	(per cent)		(1937/38 = 100)			(1937/38 = 100)		
Mexico								
Silver and ores[4]	18	5	93	44	211	129[5]	64[5]	202[5]
Gold[4]	18	–	1	1	100	88[3]	88[3]	100
Petroleum	15	7	178	95	187	740	350	211
Lead and ores[4]	12[7]	7[7]	218[7]	70	311	312[5]	103[5]	303[5]
Coffee	4	11	1221	238	513	702	116	605
Cotton	2[7]	32[7]	7540[7]	206	366	215	71	303
Total of sample	*79*	*74*	*359*	*121*	*296*	*325*	*140*	*300*
Total, less gold	*77*	*74*	*463*	*156*	*296*	*394*	*155*	*301*
New Zealand								
Butter	27	20	212	106	200	134	69	194
Wool	25	37	416	154	270	323	117	276
Mutton and lamb	18	16	268	142	189	205	106	193
Total of sample	*84*	*84*	*293*	*131*	*224*	*218*	*98*	*227*
Turkey								
Tobacco	29	28	280	143	196	214	102	210
Hazel nuts	8	14	507	195	260	470	184	255
Cotton	5	15	770	247	312	215	71	303
Total of sample	*69*	*76*	*319*	*138*	*231*	*253*	*119*	*231*
Union of South Africa								
Gold	63	35	156	156	100	88	88	100
Wool	10	11	295	109	271	323	117	276
Rough diamonds	3	5	497	161	309	457[8]	190[8]	241[8]
Total of sample	*89*	*81*	*212*	*152*	*139*	*144*	*96*	*138*
Total less gold	*64*	*64*	*376*	*140*	*268*	*307*	*120*	*253*
Yugoslavia								
Maize	10	–	1	–	375	97	41	237
Copper and ores	8	4	87	27	322	422[5]	117[5]	360[5]
Softwood	7	6	148	33	448	337	116	291
Wheat (incl. flour)	7	–	–	–	–	251	138	182
Hardwood	7	7	211	62	340	560	290	193
Lead and ores	5	7	301	92	327	312[5]	103[5]	303[5]
Tobacco	2	7	554	318	174	214	102	210
Total of sample	*57*	*52*	*161*	*59*	*272*	*303*	*125*	*245*
Total of 11 countries (excl. exports of gold)	81	80	283	101	286	292	107	279

3. World production outside USSR and semi-industrial countries, *plus* exports from USSR (estimates) and semi-industrial countries.
4. Estimates based on value and composition of mixed ores.
5. Exports from producing countries only.
6. Exports from Chile only.
7. Adjusted official values.
8. World production *minus* South African production *plus* South African exports.

coffee exports has risen whereas Brazil's share has fallen substantially. Both Colombia and Brazil have, however, gained tremendously from the very high relative prices of coffee in the post-war period.

Among the less-fortunate countries, New Zealand has offset a poor market opportunity by capturing a much greater share of the world market for each of her major exports, whereas the Argentine, which was also faced with intractable foreign demand conditions, lost more than she need have done. Australia expanded her export volume in virtually the same proportion as world demand for her exports, a gain in market share in raw wool being offset by a loss in wheat. Indian exports increased rather less than in proportion to world trade as a result of a loss of share in raw cotton; this was mainly the result of pre-emption of cotton for home mills in 1955 though, of course, there was an offset in the much greater Indian export of cotton textiles in that year than in the pre-war period.

Yugoslavia is very much a special case among this group of countries. World trade in her pre-war export "bundle" rose by 25 per cent in volume from 1937/38 to 1955, yet her exports fell off by some 40 per cent. Only in tobacco were exports in 1955 greater than pre-war. Yugoslavia's major economic effort since 1945 has been directed to industrialization and the modernization of the economy; from this point of view, the failure of exports to recover their pre-war level by 1955 appears to be a clear case of the "supply deficiency" argument mentioned earlier[20].

The other general effect of the varied changes in world demand for the different primary commodity exports, is that countries have tended to shift their export pattern away from commodities for which demand was contracting, or expanding less rapidly, to those for which a more rapid expansion had taken place. In this process, some of these countries, such as Australia and South Africa, had achieved a more diversified export pattern, but others had not; overall, there was no significant change in the degree of concentration of exports in the commodities listed in Table 3.

These results indicate a fairly close association between the movement in world demand for individual commodities and the movement in exports from the different semi-industrial countries.

20. Since 1955, exports from Yugoslavia have expanded at a rapid rate, the volume in 1959 being about 80 per cent, above the 1955 level.

This relationship is examined further in the next section, which also considers the effects on exports of relative prices, the presence or absence of "sheltered" markets, and of industrial growth in the exporting countries.

(a) *Effects of Movements in Demand, Relative Export Prices, and Presence or Absence of Shelter*

The relationship between the movement in the volume of exports of primary produce from the semi-industrial countries since pre-war and the movement in world demand and in relative export prices can be expressed in the form of a multiple regression equation. A linear logarithmic form was used, and the results for regressions using various combinations of the independent variables are summarised in Table 4.

Table 4

Results of Regressions of Export Volume on World Demand Index and Relative Export Prices[1]

Regression[2]	Co-efficient of			R^2
	W	P_E/P_W	S	
1. E on W	0.96 ($\pm$0.32)	–		0.532
2. E on W and P_E/P_W .	0.97 ($\pm$0.28)	−1.71 ($\pm$0.94)	–	0.683
3. E/W on P_E/P_W . . .	–	−1.72 ($\pm$0.89)	–	0.318
4. E on W, P_E/P_W and S	0.97 ($\pm$0.28)	−1.20 ($\pm$1.10)	0.06 ($\pm$0.06)	0.723

1. Based on indices for ten countries (all countries listed in Table 3, less Yugoslavia, which is excluded as a special case where the incentives of the world market were not operative, or only partially operative, in this period).
2. E and W = logarithms of export volume and of the volume of world demand (trade), respectively.
P_E/P_W = logarithms of ratio of unit value of exports to unit value of world demand (trade).
S = presence or absence of shelter (taken in the calculation as unity for presence and zero for absence).

The regression co-efficient for the world demand (trade) index is virtually unity, indicating that the movement of world demand is, in general, associated with a corresponding proportionate movement in exports from the primary-producing countries. Moreover, a com-

parison of the various regressions shows that world demand is the major factor of those investigated here. The net relationship between export volume and world demand (trade) is shown in Fig. 1 for the countries included in the regression equation. As was to be expected the co-efficient for the relative price term is negative, equations 2 and 3 indicating a price-substitution elasticity in relation to competing exports from other primary-producing countries of about -1.7[21].

A further regression was tried (equation 4 in Table 4), including a variable representing the presence or absence of "sheltered" markets for the exports of each country. For this purpose, Australia, India (including Pakistan), Mexico, New Zealand and South Africa were counted in the "sheltered" group; the rest were taken as selling in "unsheltered" markets. This is, of course, only a very crude indication of the relevance of "shelter" in the development of exports from these countries, since they may well be selling under sheltered conditions in some markets but not in others. For example, Britain would rank as a "sheltered" market for the Commonwealth countries, whereas their exports to the United States and Continental Europe should be considered "unsheltered". For this reason, the result of the regression analysis (Table 4) which shows that the presence or absence of sheltered markets had no significant influence on the development of exports from the semi-industrial countries, should be accepted with some reserve.

(b) *Effects of Industrialization*

We can now consider whether there is any significant relationship between the export performance of an industrializing country and its rate of industrial development. There are several ways in which the latter can be measured. The main alternatives are to measure (a) the rate of growth of manufacturing production and (b) the rate of growth of the manufacturing sector in relation to that of the economy as a whole. Both measures are used here, indices being computed for 1955 compared with 1937. Table 5 summarises the results of regres-

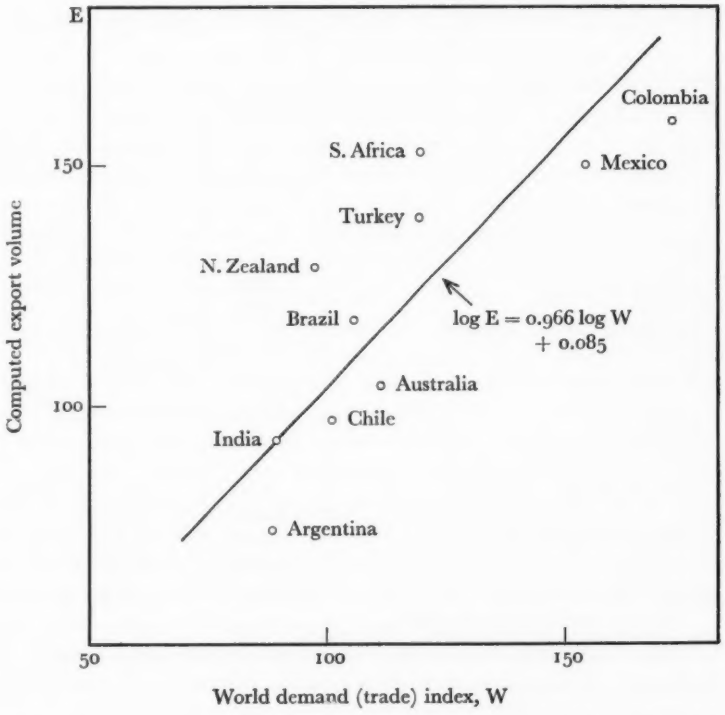
21. Since this represents a mean value for all the commodities covered, it is not, perhaps, surprising that the standard error (± 0.9) is relatively high. The corresponding country price-substitution elasticities may, in fact, vary considerably.

sions using these indices. The dependent variable for this purpose has been taken to be the ratio E/W; that is, it is proposed to measure the effect of industrial growth on the deviation of exports from world demand.

Figure 1

Relation between Computed Export Volume and World Demand (Trade) Index

(Indices for 1955, 1937/38 = 100)



The line shows the net regression of export volume on the world demand (trade) index, based on equation (2), assuming that $P_E/P_W = 1$. The vertical deviations from the line equal the deviations of the export volume indices from the computed indices for the different countries based on equation (2).

The relationship between E/W and industrial growth is not statistically significant in any of the four regressions covering all ten countries. If New Zealand is excluded[22], the goodness of fit of the regression is considerably improved, the co-efficient of M_2 (manufacturing sector in relation to the whole economy) being in the region of 0.5. The main point which emerges from Table 5 is that, if there *is* any significant relationship between E/W and either M_1 or M_2, it is a positive and not a negative one.

Table 5

Results of Regressions of Export Volume on Manufacturing Production and Relative Export Prices

Regression[1]	Co-efficient of			R_1
	M_1	M_2	P_E/P_W	
10 countries				
5. E/W on M_1	0.05 (±0.27)	–	–	0.004
6. E/W on M_2	–	0.28 (±0.37)	–	0.068
7. E/W on M_1 and P_E/P_W	0.26 (±0.24)	–	−2.14 (±0.96)	0.415
8. E/W on M_2 and P_E/P_W	–	0.20 (±0.33)	−1.64 (±0.94)	0.353
9 countries (excl. New Zealand)				
9. E/W on M_2	–	0.56 (±0.29)	–	0.348
10. E/W on M_2 and P_E/P_W	–	0.47 (±0.28)	−1.10 (±0.76)	0.519

1. E, P_E, W and P_W defined as in Table 4.
M_1 = logarithm of index of manufacturing production.
M_2 = logarithm of ratio of index of manufacturing production to index of real domestic product.

22. The exclusion of New Zealand can perhaps be justified on the grounds that her export performance automatically benefited, to a much greater degree than any other country's, by the failure of Argentina to maintain her export supplies.

6. Exports of Competing Products from the Industrial, Semi-Industrial and Non-Industrial Countries

So far, the export experience of the semi-industrial countries has been compared, in effect, with exports of similar commodities from all other countries without distinction. However, it is very relevant to the discussion of the "demand deficiency" and "supply deficiency" arguments to distinguish between the industrial and the non-industrial competitors of the semi-industrial countries. Since the exports of the industrial and the non-industrial countries might have changed differently, it might be misleading to compare their combined experience with that of the semi-industrial countries.

The distinction is a vital one when the comparison is made in terms of commodities, since the semi-industrial countries compete with the non-industrial countries mainly in tropical foodstuffs, nonferrous metals, raw cotton and sugar, and with the industrial countries mainly in cereals, tobacco, raw cotton and raw wool, meat, nonferrous metals, butter and sugar. Though there is a considerable amount of "overlapping" in the competitive pattern, there are also clearly defined areas in which the semi-industrial countries compete only with the industrial countries or only with the non-industrial ones.

The virtual stability in the total volume of exports of primary products from the semi-industrial countries between 1937/38 and 1955 conceals a sharp reduction in cereals offset by gains in beverages and tobacco and in textile fibres (see Table 6). The decline in cereals exports was mainly due to the drastic curtailment of maize exports from the Argentine (Table 3), while exports of maize from non-industrial countries also declined. On the other hand, exports of wheat from the industrial countries expanded by a very substantial amount as a result of the farm surplus position in the United States and the various commodity aid programmes.

Of the two large increases in exports from the semi-industrial countries, that in textile fibres was entirely in raw wool (the shortfall in Argentine shipments being more than offset by expansions in Australian and New Zealand exports), whereas the decline in exports from the other two groups of countries was in raw cotton. The other major increase in exports from the semi-industrial countries was in coffee and tea. In coffee, there was, however, a marked gain in the

share of the world market taken by the non-industrial producing countries, but in tea the semi-industrial countries gained in market share over the period. The relative gain in coffee by the non-industrial countries was not, however, mainly the result of industrialization in their semi-industrial competitors; rather, it resulted from the switch in consumer demand to soluble coffee, for which African *robusta* varieties are more suitable than the *arabicas* produced in Brazil and Colombia, and from the preferential protection of Colonial coffee imported into many of the expanding markets of Western Europe in the post-war period.

Table 6

Exports of Major Groups of Primary Products[1] from Industrial, Semi-Industrial and Non-Industrial Countries: 1955 compared with 1937/38

Dollar billion at 1955 prices

Commodity Group	Period	Industrial Countries[2]	Semi-industrial Countries	Non-industrial Countries	Total
Beverages and tobacco	1955	0.35	2.05	1.73	4.13
	Change from 1937/38	*+0.07*	*+0.23*	*+0.14*	*+0.44*
Meat	1955	0.20	0.53	0.01	0.74
	Change from 1937/38	*+0.11*	*—0.03*	*—0.02*	*+0.06*
Cereals	1955	1.50	0.58	0.06	2.14
	Change from 1937/38	*+0.51*	*—0.43*	*—0.11*	*—0.03*
Non-ferrous metals	1955	0.28	0.69	0.60	1.57
	Change from 1937/38	*—0.04*	*+0.03*	*+0.19*	*+0.18*
Textile fibres	1955	0.81	2.39	0.74	3.94
	Change from 1937/38	*—0.62*	*+0.25*	*—0.11*	*—0.48*
Other primary products[3]	1955	0.50	0.58	1.37	2.45
	Change from 1937/38	*—0.06*	—	*+0.13*	*+0.07*
Total of above	1955	3.64	6.82	4.51	14.97
	Change from 1937/38	*—0.03*	*+0.05*	*+0.22*	*+0.24*

Sources: As for Table 3.

1. This table is confined to the principal exports of primary products from the semi-industrial countries, as listed in Table 3.
2. OEEC Countries, North America and Japan.
3. Butter, sugar, linseed and cattle hides.

The prime importance of the commodity composition of trade of the different groups of countries can be seen even more clearly if we divide the exports of the non-industrial countries into two parts: the commodities directly competitive with those of the semi-industrial countries (as included in Table 6), and all other primary products. The contrast in export experience of the two commodity groups is most striking. Whereas the export volume in 1955 for the first, "competitive", group was 105 (1937/38 = 100), compared with an index of 101 for the semi-industrial countries, the rise in export volume in the second, "non-competitive", group exceeded 100 per cent.

Table 7

Exports of Primary Commodities from the Non-Industrial Countries: 1937/38 and 1955

Commodity Group	1937/38	1955	Volume in 1955
	($ billion at 1955 prices)		(1937/38 = 100)
1. Directly competitive with exports of semi-industrial countries[1]	4.29	4.51	105
2. Other primary commodity exports[2]	4.42	9.90	224
Total	8.71	14.41	165[3]

Sources: *International Trade 1956*, Table 4 and Appendix, and working data for Table 3 in this article.
1. As in Table 6.
2. Residue.
3. This differs slightly from the corresponding volume index (158) published in *International Trade 1956* because of some difference in the countries included in the calculation.

This further evidence also supports the view that the divergent rate of growth in exports from the semi-industrial and the non-industrial countries is closely connected with the different commodity-patterns of their exports. The implication seems to be that the "demand-deficiency" argument is nearer the truth, than the "supply deficiency" argument, if broad generalisations are sought.

7. *Effect of Changes in Exports on Industrialization*

Though the statistical evidence appears to indicate that the rate of industrial growth has had no significant adverse effect, in general, on the volume of exports from the semi-industrial countries, there are grounds for assuming that a causal relationship operates in the reverse direction, that is, that movements in exports affect the pace of industrialization. In so far as industrial growth depends on purchasing imported equipment and materials, changes in export income will affect the rate of growth that can be attained.

For the semi-industrial countries included in the previous analysis, a comparison has been made between the movement in export earnings, imports of manufactures and manufacturing production from pre-war to 1955. The figures are summarised in Table 8. Export earnings are shown both in terms of current prices and deflated by the price change for manufactures; the latter thus indicates the change over the period in each country's "capacity to import" manufactures by using the earnings from its commodity exports. In practice, of course, additional funds may be available through foreign investment or loans or grants from other governments or from the international financial agencies. These "capital" items are however ignored here.

The indices show a general positive relationship between the change in a country's deflated export income and its imports of manufactures. The rise in imports into Brazil was relatively small in relation to the rise in deflated export earnings; this was mainly due to the restrictions on imports in 1955 as a result of Brazil's difficult balance of payments situation. Argentina, on the other hand, had a relatively good year for imports in 1955, in spite of continuing quantitative restrictions. For the other countries included in Table 8, it is not thought that import restrictions seriously affected the total volume of imports in 1955.

Two regressions were tried involving the indices of deflated export earnings, but excluding Brazil for reasons mentioned above. The results are given in Table 9 (equations 11 and 12); in each case, the goodness of fit was poor, but this was perhaps to be expected, since several important factors are omitted from the analysis. The most important omissions are probably (a) the exclusion of income from

Table 8

Exports, Imports of Manufactures and Manufacturing Production: 1937 and 1955

Country	Total Exports		Volume of Imports[3] of Manufactures[4]	Capital Goods[5] Share of Imports[3] of Manufactures		Manufacturing Production
	Current Value[1]	Deflated[2]		1937	1955	
	(1937/38 = 100)		(1937=100)	(per cent)		(1937=100)
Colombia	584	307	312	25	48	400
Union of South Africa	281	148	118	29	37	350
Brazil	441	232	143	37	54	300
Turkey	289	152	223	22	52	285
Yugoslavia	195	103	150	28	52	265
Mexico	376	198	230	38	47	235
Australia	278	146	190	27	36	235
New Zealand	300	158	170	23	31	230
Chile	287	151	127	25	54	215
Argentina	155	82	78	27	40	195
India (incl. Pakistan)	240	126	135	23	47	170

1. In terms of US dollars.
2. Current value deflated by unit value index of world trade in manufactures (taken as 190 for 1955, 1937/38 = 100).
3. Actually, exports to specified country from 12 major countries exporting manufactured goods.
4. SITC Sections 5 to 8, inclusive.
5. SITC Section 7 (Machinery and Transport Equipment) *less* passenger road vehicles.

foreign investment in the index for the capacity to import, (b) imports of non-manufactures and (c) time-lags. Nonetheless, the results are strongly suggestive. They indicate that, on average, a 10 per cent rise in deflated export income has been associated with a 7 per cent rise in imports of manufactures into the countries covered, and with a 5 per cent rise in manufacturing production.

Economic growth is also associated with a shift in the pattern of demand in favour of capital goods. As the semi-industrial countries produce only a relatively small proportion of their requirements of capital equipment this shift in demand patterns has strongly influenced the pattern of their imports, as can be seen from Table 8. In 1937, only two countries took more than 30 per cent of their im-

ports of manufactures in the form of capital equipment; in 1955, all did so, the proportion exceeding one-half for four countries[23].

The rate of growth in manufacturing production has in all cases exceeded that in imports of manufactured goods, thus indicating a substantial amount of substitution of home-produced goods for imports. Import-substitution appears to have been relatively greatest in Brazil and South Africa. However, too much should not be read into the comparison, since the relation between imports and industrial growth is a complex one, and the impact on imports depends very much on the pattern of growth and the import-content of the various industrial sectors, as well as on the changing pattern of demand. Nevertheless, it seems clear that there is a general positive relationship between industrial growth and imports of manufactured goods as, indeed, is indicated by equation 13 in Table 7. In so far as imports of manufactures are a function of export earnings, it can be concluded that exports are generally a determining factor in the rate of industrialization that can be attained without imposing undue strains on the balance of payments. There is, of course, nothing new or surprising about this particular conclusion.

Table 9

Results of Regressions of Production, Imports of Manufactures and the Capacity to Import

Regression[1]	Co-efficient of		R^2
	C	I_m	
11. I_m on C^2	0.67 (±0.31)	–	0.394
12. M_1 on C^2	0.45 (±0.21)	–	0.387
13. M_1 on $I_m{}^3$	–	0.41 (±0.14)	0.524

1. Im = logarithm of volume index of imports of manufactures.
   C = logarithm of index of capacity to import (i.e. index of value of exports deflated by index of unit value of manufactures in world trade).
   M^1 = logarithm of index of manufacturing production.
2. Based on indices in Table 8, excluding Brazil.
3. Based on indices in Table 8, excluding South Africa.

23. A substantial proportion of the imports of capital goods into the semi-industrial countries are for use outside manufacturing (e.g. agricultural tractors, mining plant and machinery and power equipment).

8. Conclusion

For the period since 1937/38 covered by the above analysis, the broadest generalizations that can be made about the relationship of industrialization to exports appear to be, first, that the process of industrialization *per se* did not have a retarding effect on the development of exports from the semi-industrial countries taken as a whole; second, that the slower rate of growth in their exports, compared with those of the non-industrial countries, was due essentially to differences in the commodity pattern of exports of the two groups of countries; and, third, that the pace of industrialization has itself been heavily dependent on the progress of exports. All three generalizations are fully consistent with NURKSE's view that economic developments in the main industrial areas are a determining factor in the rate of growth in the primary producing countries.

Finally, it should be emphasised that these generalizations relate to the semi-industrial countries in the aggregate. More detailed investigation into the economic development of individual countries would, no doubt, reveal that for some countries, and for some periods, industrialization has had a retarding effect on the supply of primary commodities for export. Some of the movements mentioned earlier, such as Argentine maize and Indian cotton, are probably good examples of this. But the weight of evidence is in favour of the view that the industrialization of a primary producing country cannot in itself be assumed to have adverse effects on its capacity to import and thus indirectly to place limits on its domestic rate of economic growth.

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SUMMARY

The effects of industrialization on exports of primary-producing countries. In the period from pre-war to 1955, the volume of exports from the "semi-industrial" countries (i.e. the industrializing group of primary-producing countries) failed to rise, whereas exports from the "non-industrial" countries (i.e. all other primary-producing countries outside Western Europe, North America and the Soviet bloc) rose by about 60% in volume.

There are two schools of thought about the main causes of this lag in exports from the semi-industrial countries. The first school places emphasis on the *defi-*

ciency of demand by the industrial countries for the products of the semi-industrial countries; the second emphasises a *deficiency of supply* of exports resulting from the process of industrialization in the producing areas. Recent annual reports of GATT have presented statistical comparisons of the exports of the semi-industrial and the non-industrial countries which appear to support the supply-deficiency argument.

The GATT analysis, however, suffers from two deficiences. First, it makes inadequate allowance for variations in world demand for particular commodities; second, it makes no allowance for the influence of relative price changes on the exports of particular countries. The present article attempts to build on the GATT analysis by extending it to include these two additional factors.

A special index of world demand is constructed for the exports of each of the semi-industrialized countries, based on the movement in world trade of individual commodities and using the commodity-pattern of exports from each country as weights. Further, an index of export unit values of world trade in the commodity "bundle" of exports from each country is computed and related to the actual export unit value index of each country. Regressions of export volume on the indices of world demand and relative prices show a close correspondence between exports from a given country and the relevant world demand changes (as represented by world trade). The mean co-efficient for the relative price variable is —1.7, but the standard error is high (±0.9). The inclusion of a dummy variable to indicate the presence or absence of sheltered market yielded no significant result, but this was probably because the variable used is a very imperfect indicator of the degree of shelter enjoyed. The inclusion of industrial growth in the regressions indicated that if there *is* any significant relation between industrialization and exports it is a positive, and not a negative, one.

A more detailed commodity analysis shows that the export experience of the non-industrial countries was in total much the same as that of the semi-industrial countries, if the comparison is limited to directly competitive commodities. Finally, it is shown that there is a positive association between industrial growth and the "capacity to import".

The implications of the analysis are (1) that industrialization *per se* in the period covered did not have a retarding effect on the exports of the semi-industrial countries as a whole; (2) the retardation in their exports was due essentially to the slower rate of growth in demand for their "bundle" of commodity exports than for those of the non-industrial countries; and (3) that the pace of industrialization has itself been heavily dependent on the progress of exports. These generalizations appear to fit most closely the views of the "demand-deficiency" school mentioned above.

ZUSAMMENFASSUNG

Die Auswirkungen der Industrialisierung auf die Exporte der Rohstoffländer. Im Zeitraum bis 1955 nahm das Volumen der Exporte aus «halbindustriellen» Ländern (das heisst der Gruppe sich industrialisierender Rohstoffländer) nicht zu, während

die Exporte der nichtindustrialisierten Rohstoffländer (das heisst aller Rohstoffländer ausserhalb Europas, Nordamerikas und ausserhalb des Sowjetblocks) um etwa 60% anstiegen.

Über die Hauptgründe dieses Zurückbleibens der Exporte aus halbindustriellen Ländern gibt es zwei widerstreitende Erklärungen. Die eine Lehrmeinung betont *mangelnde Nachfrage* seitens der industriellen Länder für die Produkte der halbindustriellen Länder. Die andere Schule hebt als Hauptgrund ein *mangelndes Angebot* an Exporten hervor, das durch den Prozess der Industrialisierung in den Produzentenländern hervorgerufen wird. Neuere Jahresberichte des GATT brachten statistische Vergleiche der Exporte aus halbindustriellen und nichtindustriellen Ländern, die die These des mangelnden Angebots zu stützen scheinen.

Die GATT-Analysen weisen jedoch zwei Lücken auf: Erstens werden Veränderungen der Weltnachfrage für einzelne Güter nicht genügend berücksichtigt, und zweitens wird nicht untersucht, welchen Einfluss relative Preisänderungen auf die Exporte einzelner Länder haben. Die vorliegende Arbeit versucht, auf der GATT-Untersuchung aufbauend, auch diese zusätzlichen Faktoren zu berücksichtigen.

Zuerst wird ein Index der Weltnachfrage für die Exporte jedes halbindustriellen Landes konstruiert, der auf der Struktur der Welthandelsströme mit einzelnen Gütern basiert und der die Güterzusammensetzung der Exporte aus jedem Land als Gewichte benutzt. Dann folgt die Berechnung eines Index des Einheitswerts des Export-Warenkorbes einzelner Länder. Regressionsanalysen zeigen einen engen Zusammenhang zwischen den Exporten eines gegebenen Landes und den jeweils relevanten Indizes der Weltnachfrage. Die Berücksichtigung eines Faktors «industrielles Wachstum» in den Regressionen zeigt, dass, wenn überhaupt ein signifikanter Zusammenhang zwischen Industrialisierung und Exporten besteht, dieser Zusammenhang positiv statt negativ ist.

Eine detaillierte Analyse einzelner Güter führt zu dem Ergebnis, dass das Exportverhalten der nichtindustriellen Länder insgesamt dem der halbindustriellen Länder ähnelt, wenn man die Betrachtung auf direkt konkurrierende Güter beschränkt. Schliesslich ergibt sich, dass ein enger Zusammenhang zwischen Industrialisierung und der «Importkapazität» besteht.

Die Folgerungen der vorliegenden Analyse sind: 1. Die Industrialisierung *per se* übte im betrachteten Zeitraum keinen hemmenden Einfluss auf die Exporte der halbindustriellen Länder aus; 2. das Zurückbleiben ihrer Exporte ging im wesentlichen auf ein langsameres Wachstum der Nachfrage nach ihrem Warenkorb von Exporten als nach dem nichtindustrieller Länder aus; 3. die Schnelligkeit der Industrialisierung selbst hing in grossem Masse vom Anwachsen der Exporte ab. Diese Schlüsse scheinen im ganzen die These von der mangelnden *Nachfrage* zu unterstützen.

RÉSUMÉ

Les effets de l'industrialisation sur les exportations des pays producteurs de matières premières. Jusqu'en 1955 le volume des exportations des pays «semi-industriels» (c'est-à-dire du groupe des pays producteurs de matières premières en voie d'in-

dustrialisation) n'a pas augmenté, alors que les exportations des pays producteurs de matières premières non industrialisés (c'est-à-dire de tous les pays producteurs de matières premières en dehors de l'Europe, de l'Amérique du Nord et du bloc soviétique) se sont accrues d'environ 60%.

Il existe deux explications contradictoires de cette stagnation des exportations des pays semi-industriels. L'une des deux thèses défendues souligne *l'insuffisance de la demande* des pays industriels en ce qui concerne les produits des pays semi-industriels. L'autre met en évidence *l'insuffisance de l'offre* de produits d'exportation, insuffisance due au processus d'industrialisation se déroulant dans les pays producteurs. Dans des rapports annuels de dates récentes, le GATT a publié des comparaisons statistiques des exportations de pays semi-industriels et de pays non industriels. Ces comparaisons semblent fournir des preuves à l'appui de la thèse de l'insuffisance de l'offre.

Les analyses du GATT contiennent cependant deux lacunes. Premièrement, elles ne tiennent pas suffisamment compte des variations de la demande mondiale pour ce qui est des différents produits en question. Deuxièmement, l'influence qu'exercent les modifications de prix relatives sur les exportations des différents pays intéressés n'y est pas étudiée. La présente étude, se basant sur les données du GATT, a pour but de combler ces lacunes.

Pour commencer, un indice de la demande mondiale se basant sur la structure des courants des échanges mondiaux, c'est-à-dire leur répartition sur les divers produits en question, est construit pour les exportations de chaque pays semi-industriel. La répartition des exportations de chaque pays sur les divers produits est utilisée comme poids. Suit alors le calcul d'un indice de la valeur unitaire de l'ensemble des produits destinés à l'exportation des divers pays intéressés. Des analyses de régression démontrent qu'il existe un lien étroit entre les exportations d'un pays donné et des indices de la demande mondiale s'y rapportant. En tenant compte du facteur de la «croissance industrielle», il a pu être démontré que s'il existe un rapport significatif entre l'industrialisation et l'exportation, il s'exprime de manière positive et non négative.

Une analyse détaillée des différents produits permet de constater que le comportement des pays non industriels dans leur ensemble ressemble à celui des pays semi-industriels, en ce qui concerne les exportations, à condition toutefois de se limiter à l'étude des produits qui se font directement concurrence. Notons enfin qu'il résulte de cette analyse qu'il existe une relation étroite entre l'industrialisation et la «capacité d'importation».

Les conclusions à tirer de la présente étude sont les suivantes: 1. Dans la période en question, l'industrialisation *per se* n'a pas exercé d'influence contraire aux exportations des pays semi-industriels; 2. la stagnation des exportations de ces pays est due notamment à une croissance plus lente de la demande pour ce qui est de leurs produits destinés à l'exportation qu'en ce qui concerne ceux des pays non industrialisés; 3. la rapidité de l'industrialisation a été déterminée dans une très large mesure par la croissance des exportations. Ces conclusions semblent se rapprocher, dans leur ensemble, de la thèse de l'insuffisance de la *demande*.

THE EFFECT OF PRICE ON EUROPE'S EXPORTS TO THE UNITED STATES[1]

A. Introduction

A number of important statistical studies in recent years have added to our understanding of the forces affecting the flow of world trade. Some have emphasized the importance of income variations and others the effect of price. Most studies using time-series data found that income effects on demand dominated those of price; some, using other types of evidence, were able to show that price had an apparent effect on demand for a particular commodity exported or imported. In order to show where the present study fits into the accumulated evidence, it may be well to summarize briefly the relevant findings of some of these contributions.

J. J. POLAK found that for some two dozen countries in the inter-war years, import variations were determined mainly by fluctuations of income, while income itself was strongly influenced by the volume of exports[2]. Import price only appeared as a variable for four countries and the estimated price elasticity was very low. However, price appeared in almost half of the export equations, and elasticities were in some cases substantial. Exports were determined mainly by world income (as measured by the sum of world imports), and income elasticities were scattered around unity.

T. C. CHANG treated a roughly similar list of countries over the same period, and found that both import and export price elasticities were low, for only a few countries making a sum substantially greater than unity[3]. On the other hand, income elasticities of import demand were high, being highest for agricultural countries and becoming lower with increases in the degree of industrialization. World demand

1. I am indebted for helpful comments to W. S. ANDREWS and C. SCHULTZE of Indiana University, and for help and advice on computation to Mrs. S. ENGLE, D. HALL, and other staff members of the Research Computing Center, Indiana University.

2. J.J. POLAK, *An International Economic System*, Allen and Unwin (London 1954).

3. T.C. CHANG, *Cyclical Movements in the Balance of Payments* (Cambridge 1951).

for exports from industrial countries was also highly income elastic while that for exports from agriculture countries was inelastic.

NEISSER and MODIGLIANI came to results generally in harmony with those of POLAK and CHANG, although not comparable in detail[4]. Their countries were consolidated into six groups: the smaller industrial countries, the primaries producers, and the four large industrial countries taken singly. National income or industrial output was the main determinant of imports for all six groups, while such elements as domestic food output, raw-material prices, and capital imports to primaries countries, appeared in some equations. Individual country exports were determined by other countries' total imports, and so, in effect, by their incomes. Price appeared more frequently in the export than in the import equations; but its role was found to be minor.

The ADLER, SCHLESINGER, VAN WESTERBORG study gave additional evidence on import demand and provided new price and quantity data on imports[5]. Their explanatory variables were real gross national product or industrial production, and a price variable for imports (adjusted for tariff) expressed as a relative to three other price indexes[6]. Their conclusions, in brief, were that industrial output explained imports of crude and semi-manufactured materials very succesfully, with some improvement through the addition of a price variable; that food imports were not explained satisfactorily by either income or price; and that an income-and-price equation

4. HANS NEISSER and FRANCO MODIGLIANI, *National Income and International Trade*, University of Illinois Press (Urbana 1953).

5. J.H. ADLER, E.R. SCHLESINGER, and E. VAN WESTERBORG, *The Pattern of United States Import Trade Since 1923*, Federal Reserve Bank of New York (New York 1952).

6. The adjusted price was obtained by adding on the ad valorem tariff equivalent of the duty. See p. 62, *op. cit.*, for a description of this computation. The price variable used in their correlation calculations was the ratio of the tariff-adjusted price index to an unweighted average of (1) the US Wholesale-price index adjusted to match the composition of imports in the commodity group, (2) the BLS wholesale price index for the commodity groups, and (3) the tariff-adjusted import-price index for the commodity group from other regions of origin. See their description on p.69. I suspect that they might have been more successful with separate price variables, since there was no way to determine the proper weights of the three components in the denominator; and variations of components are generally watered down through averaging, even if the weights are proper.

was very successful for manufactured imports (from the ERP countries taken as a group and from Switzerland and the United Kingdom)[7].

MACDOUGALL, in his well-known study of substitution elasticities between United States and British manufactured exports in world markets, finds average elasticities for over a hundred commodities ranging between —1.2 and —2.2[8]. Because of downward biases due to the least-squares method he believes a figure of —3 to be more representative. His study provides no information on the effect of world income on demand for a country's exports, and it deals with the demand for only one large class of exports, manufactures. But the information it yields on the effect of price is impressive. HARBERGER has by some ingenious manipulations translated the substitution elasticities into ordinary elasticities of demand which still turn out to be substantial[9].

MALACH gave estimates of elasticity of demand for Canadian wheat to the United Kingdom and for newsprint, woodpulp, and iron ore to the United States[10]. He estimated total demand of the country concerned for the particular import, adjusted this for share in the country's market of the Canadian supply, and for elasticity of supply for other sources, to obtain impressively high demand elasticities for these four items. His explanatory variables were real income and relative price, applied to annual data.

7. Their basis for an optimistic conclusion on the effect of prices on imports was the improvement of the multiple correlation coefficient through inclusion of price as a variable supplementary to income. However, in 15 of 31 regression equations which showed a price variable, price did not make the 5% significance level, although it had in all but two cases the proper sign. Furthermore, the price variable used was difficult to interpret, being an unweighted composite of several indices. This writer would view their results as mildly encouraging for the view that price has importance for some imports but more strongly supporting for the view that income is the principal explainer. The enthusiasm of the authors for their price variable seems a little excessive in the light of their own evidence.

8. D. MACDOUGALL, "British and American Exports: A Study Suggested by the Theory of Comparative Costs". Part I, *Economic Journal*, December 1951, LXI, 697–724, Part II, September 1952, LXII, 487–521.

9. A. C. HARBERGER, "Some Evidence on the International Price Mechanism", *Jour. Polit. Econ.*, December 1957, LXV, 506–521.

10. VERNON W. MALACH, "Elasticity of Demand for Canadian Exports", *Rev. Econ. Stat.*, 1957, XXXIX, 23–30.

While some of the foregoing studies give encouragement to the elasticity optimists, who would use relative price adjustments as a means to keep a country's external payments in balance, most of the favorable evidence deals with particular commodities and not with the whole range of a country's exports or imports. In order to obtain a better idea of the effect of an exchange-rate adjustment, one would wish a demand elasticity which applies to the total rather than only a part of a country's trade. One way of doing this is to take a suitably weighted average of price-elasticities for individual commodities or groups of them; another, heretofore generally unsuccesful, is to take total imports or exports and compute the total elasticity with respect to a composite price directly. The latter is the procedure followed here.

B. The Results

1. General.—The quantity and price data for imports used in all the multiple regression computations summarized her are from ADLER, SCHLESINGER, and VAN WESTERBORG. Both prices and quantities are there given in index number form, computed by means of Fisher's ideal index formula, and corrected for changes in the tariff. The European countries taken were those having a fairly important share of United States imports: Belgium, France, Germany, the Netherlands, Italy, the United Kingdom, Scandinavia, and Switzerland.

The explanatory variables were United States GNP at constant prices; a United States general price index; an index of general import prices adjusted for changes in the tariff; and a price index for the imports coming from the particular country (also adjusted for tariff). For Belgium, the Netherlands, and Scandinavia, United States industrial output was substituted for GNP because imports from these countries consisted largely of crude and semi-manufactured materials. For France, Italy, and the United Kingdom, total imports were replaced by imports excluding alcoholic beverages. The reason for this was the effect of prohibition, and its repeal, or imports from these countries.

Three different sets of observations were taken for each country: (a) the period 1923–1950, including all years but 1940–1947; (b) the period 1923–1950, excluding both 1930–1934 and 1940–1947; and

(c) the period 1923–1939. A comparison of the results under (a) and (b) made it possible to gain a picture of the disrupting effects of the depression on the normal relation between imports and their determining variables. These effects would be reflected both in the regression coefficients and in the coefficient of determination. It was expected that the price variables would perform better under (b) than under (a), while the output variables would be stronger under (a), which included the depression years. Table I shows that, contrary to what the writer had expected, inclusion of the depression years did not strengthen the explanatory value of output, nor did it weaken that of the price variables. Moreover, the coefficient of determination, while higher under (b) than under (a), was not strikingly so. These two facts should increase one's confidence in the stability of the relationships shown.

A comparison between (a) and (c) gave some indication of the importance of structural changes between the prewar and postwar periods, as they affected the demand for imports. The coefficient of determination was substantially higher under (c), which omitted the postwar years, than under (a), which included them, while nothing very definite can be said about changes in the explanatory variables. The change in R^2 reflects changes both in the structure of the United States economy and in those of the supplying countries. For the United States there was the expansion of industry relatively to agriculture, and the increased dependence on imported fuel and basic materials. In Europe, there was strong industrial growth, and in the case of Germany there were population shifts and boundary changes.

2. The Price Variables.—The price variables used are best discussed together, since they all throw light on the same phenomenon: the substitution of imports from one supplying country for goods from alternative domestic or imported sources. A substitution resulting either from a fall in the price level of the particular supplying country, from a rise in price levels of other supplying countries, or from a rise in prices within the United States, has the same effect on the dollar earnings of the country concerned.

Demand for imports from a particular country can be defined in the following way:

$$Q_i = Q_i\left(\frac{P_i}{P_o}, \frac{P_i}{P_G}, Y\right)$$

Table I

Price and Output-Demand Elasticities with Undeflated Variables

Country	Variable	Country Import Price	General Import Prices	Industrial Production	GNP at 1947 Prices	US Wholesale Prices	GNP Deflator	R^2	$\bar{R}^2$
	a	− .57*	1.91*	−		1.73*		.74	.67
Belgium	b	− .84*	1.32*	1.4*		−		.84	.78
	c	− .49*	.33*	1.4*		−		.89	.87
	a	− .42*	2.4*	−		.68*		.72	.65
Netherlands	b	− .05*	2.0*	−		−		.74	.63
	c	− .77	1.2	.37*		−		.79	.75
	a	− .54*	.16	−		1.1*		.74	.67
Scandinavia	b	− .47*	−	.90*		−		.86	.81
	c	−1.3*	−	.87*		1.3*		.94	.92
	a	− .56	3.4		−	−		.92	.90
France	b	− .59	3.0		−	−		.94	.92
	c	− .65	.51		−		−	.97	.95
	a	−	3.4*		−	−		.73	.66
Germany	b	−	3.5*		−	−		.75	.65
	c	−3.6*	−		.38		9.4~	.91	.88
	a	−	2.0*			.15~		.77	.71
Italy	b	−	1.8*		.51*		−	.91	.87
	c	−	−		−		−	.82	.76
	a	−1.0	3.0		−		−	.89	.86
United Kingdom	b	−1.5	2.4		−		−	.93	.90
	c	−1.6*	1.5*		−	−		.94	.91
	a	−1.6*	.85*		.79*		−	.96	.95
Switzerland	b	−1.8*	.49*		.54*		−	.96	.94
	c	−1.4*	.49*		.86*		−	.94	.92
	a		−		.71*		−	.84	.81
Overall	b		−		.83*		−	.78	.72
	c		−.14*		.62*	78*		.83	.79

Notes: Period (a) covers the years 1923–1939 and 1948–1950, omitting the years 1940–1947; period (b) covers 1923–1929, 1935–1939, and 1948–1950, omitting the other years; period (c) covers all the prewar years 1923–1939, but omits the postwar years. Two alternative domestic price variables were used for the five countries supplying mainly manufactured goods (the last five of the Table). The regression equation giving the higher R^2 was chosen between the two (one using US wholesale prices, and other taking the GNP deflator). However, the "second-best" calculations gave essentially the same picture: the import-price variables being strong, and output being weak explainers of imports. The significance level of each elasticity coefficient is 1% when marked with an asterisk, 5% when unmarked and 10% when marked with a tilde.

where Q_i is imports from the particular country, P_i is the price index of these imports, P_o is domestic price, P_G is general import prices, and Y is domestic real output. This states that imports from Country i depend on the *ratios* of its price to two other prices, and on the level of output. Our linear regression equations differ from these in that they treat the three prices separately, rather than as ratios. However, this alternative formulation shows why one would ordinarily expect the direct-price elasticity for imports from a country to be greater than either of the cross-elasticities: The former price change alters both ratios at once, while either of the latter price variations affects only one of the two ratios.

Now, examination of Table I shows that this expectation is generally not confirmed. The strongest performer, in the sense of showing the highest elasticity values, is not country price, but general-import prices. To explain this, we shall first examine some of the reasons for bias in the estimates associated with the method of least squares. These are well-known and can be listed very briefly: (1) If both supply and demand shift independently, and supply is upward sloping, downward bias occurs in the regression of quantity on price. (2) If shifts of demand and supply are negatively related, so that schedule increases of demand are associated with supply reductions, a further underestimate results. (3) Observation errors in the explanatory variable lead to bias toward zero of the regression coefficient. (4) Use of indices of price and quantity, as we have done, will cause an underestimate of price elasticity if the low-elasticity items show more price variation in the given period than the high-elasticity items.

We now wish to examine whether these sources of underestimate operate more strongly in the case of the direct-price elasticity than for the general-import-price elasticity. The appropriate price-quantity diagram for the cross-price effect would have an upward sloping demand curve (other prices being on the vertical, and quantity of imports from the ith country on the horizontal axis) and a supply which may slope downwards or be horizontal. If the levels of other countries' prices have an effect on supply-prices of a particular country, supply would have a downward slope. Downward-sloping supply leads to a vertical biassing of the demand estimate analagously with (1) above.

That the first source of distortion would be more important for direct—than for cross-price elasticity seems likely. The United States has an important share in the total exports of these countries, and especially so for the narrower range of items that make up their shipments to this country. The connection between movements of export prices of any one country with world-export prices would seem more roundabout, and would operate mainly through the impact of import prices on domestic costs. Here it should be remembered that the general-import price index used is heavily weighted with basic materials, which come mainly from non-European sources.

Item (4) on the other hand, would generally be stronger for overall imports than for those from a particular country, since the dissimilarity in composition would be greater for overall United States imports than for those coming from a single country. And it is likely that low demand elasticity items in the past have shown more price variation than the high-elasticity items. Finally, items (2) and (3) have no evident difference in their effect on either of the two price coefficients. In sum, if the foregoing sources of bias are to provide the explanation for the difference in observed elasticities from the expected, the first cause must have been much stronger than the fourth.

A second question is whether interdependence of the explanatory variables may be present in sufficient degree to make the calculated regression coefficients unreliable. In fact, the simple regression coefficients among all the explanatory variables were high and positive. But true interdependence would be expected to show up in very wide confidence intervals for the regression coefficients. Table I shows that this did not occur in the case of the two import-price coefficients, for they generally were significant at either 1% or 5%. In addition, the consistent performance of these price variables for the three periods for all countries but Germany and Italy (where special circumstances were present) strengthens one's confidence in the validity of the relation found.

A third problem, which generally arises in time-series analyses, is whether independently caused trends in some of the explanatory variables, and in the variable to be explained, may have led to a spurious relation, or obscured one that existed in fact. In order to throw some light on this question, a tabulation of simple correlations between the explanatory variables and import volume, for each of

the three periods, was made. This showed a high degree of variation in magnitude and sign of each of the r_{ij}'s with changes in the period taken. The only two countries for which this was not noticeably so were Switzerland and Scandinavia (for convenience we refer to the latter as a "country"). This great variability of the r_{ij}'s, combined with the relative stability of the regression coefficients, suggests that the price-relations shown were real and not fortuitous. Table I shows only three countries for which the two import-price coefficients were not both significant for all three periods—Scandinavia, Germany, and Italy—and the last two seem easily explainable.

On the other hand, the indeterminacy of the domestic price and output coefficients in a large proportion of the cases might conceivably be caused by the interdependence of the variables referred to above. An alternative calculation intended to reduce this influence in the case of the output variable is discussed in the next section.

In summary, the evidence given so far suggests to the writer that we can place some confidence in the order of magnitude of the price coefficients. Moreover, we can view the general-import price as an alternative measure of direct elasticity of demand for imports from one country. On theoretical grounds one would expect it to be smaller numerically than the direct elasticity; its greater calculated value may be due to a lower degree of bias in the calculation. We should therefore take it as a second lower limit to the true price elasticity, the true elasticity being at least as great as the higher of the two estimates.

3. The Output Variables.—Industrial output was a moderately successful explainer of imports from two of three countries which supply mainly crude and semi-manufactured materials to the United States: Belgium and Scandinavia (the third being the Netherlands). On the other hand, GNP at constant prices did not, expect for Switzerland and for overall imports, make a good explainer. While Table I shows the results for the unaltered variables, Table II displays an attempt to free the output variable from the influence of parallel movement in the price variables. The device was to divide the two import-price variables by the implicit GNP deflator, giving ratios of import to domestic prices, in place of the previous simple index values. In fact, the simple correlations between output and import prices were greatly reduced, in some cases falling close to zero.

Table II

Price and Output-Demand Elasticities
with Import Prices Deflated by GNP Deflator

Country	Variable	Country Import Price	General Import Prices	Industrial Production	GNP at 1947 Prices	R^2	$\bar{R}^2$
Belgium	a	.53*	.01*	.23*		.14	.03
	b	.18*	.09*	.27*		.56	.44
	c	–	–	1.36*		.89	.86
Netherlands	a	.13*	.18*	–		.71	.66
	b	.13*	.16*	–		.74	.67
	c	.004*	.10*	.42*		.78	.73
Scandinavia	a	.75*	.001*	.18*		.43	.33
	b	.07*	–	.76*		.76	.69
	c	.005*	–	.77*		.86	.83
France	a	.10*	.024*		–	.88	.86
	b	.10*	.25*		–	.90	.88
	c	.01*	.22*		–	.89	.86
Germany	a	.18*	.18*		–	.61	.54
	b	.39*	.16*		–	.73	.66
	c	.49	.18*		1.54*	.71	.64
Italy	a	.04*	.01*		–	.60	.53
	b	–	.01*		–	.87	.83
	c	.04*	.11*		–	.58	.48
United Kingdom	a	.20*	.43*		–	.90	.88
	b	.414*	.49*		–	.94	.92
	c	.025*	.44		–	.91	.89
Switzerland	a	.15*	.09*		.98*	.96	.95
	b	.16*	.08*		.96*	.95	.93
	c	.18*	.10*		.88*	.92	.90

The results of this labor were little better for the output variables. Output remained insignificant for imports from the same countries as previously, and improved slightly only for Belgium and Scandinavia. At the same time, the coefficients of determination were low-

ered; and the price elasticities were sharply reduced, in many cases becoming insignificant. For the poorer performance of the price variables it is easy to find a good explanation in the fact that we divided both of the import prices by another price index which had a high positive correlation with each of them. Doing this diminishes the relative variance of the new index; in the extreme case of a correlation of one between numerator and denominator of the price ratio, the variance would become zero. Thus the effects of import prices can easily be obscured by the magnified importance of observational errors and random disturbances.

On the other hand, the failure to strengthen greatly the domestic output variables through this procedure supports the conclusion that price was a stronger explainer of imports from single countries than US domestic ouput. To the writer there is no conflict between this finding and those of other studies: These generally dealt with demand for overall imports or for particular import categories from all sources. Our three overall import-demand equations in fact accord with the view that United States overall imports, which are heavily weighted with primary commodities, respond strongly to domestic output but not to price.

C. Concluding Remarks

We have given evidence that United States imports from particular countries, and consequently their dollar earnings, were strongly price-responsive, even on a year-to-year basis. Over longer periods, especially for manufactured goods, price elasticity is very probably much greater. On the other hand, our results have not given support to the belief that substitution against United States domestic products is high: The substitutability appeared to be mainly among competing import sources for the same dollars (even though experience of the past few years has suggested that price was in fact a decisive element in the recent invasion of American markets by European goods).

But, keeping to the evidence of the study, we must admit that we have failed to show a way for all countries *simultaneously* to adjust their dollar earnings. Competitive price reductions might leave total United States expenditure on imports unchanged. But even under

this unfavorable contingency, the countries who lower price would be enabled to make another kind of substitution *against* dollars, which would not occur under a single-country price adjustment. To clarify this point, consider three countries, *a*, *b* and *c*, where *a* and *b* carry out a simultaneous devaluation against *c* (the United States). *a* and *b* have import-demand elasticities of zero, and *c* has a demand elasticity of unity. The result of devaluation will be that *a* and *b* together earn the same direct dollar proceeds as before, spend fewer dollars on imports from *c*, and purchase more from each other than before at reduced dollar prices, with the volume of their imports remaining constant. Assuming for simplicity that both countries are affected equally by these shifts, each would enjoy an improved dollar balance, and an overall balance improved by the exact same amount. The latter is true since the bilateral balance between *a* and *b* remains unchanged, and so the only change in the overall balance takes place through the reduction in direct dollar expenditures. So we see that even the unfavorable circumstance of low elasticities combined with competitive devaluations *need* not impair a country's ability to restore external balance.

The results may throw additional light on a further unsettled question: whether one will find higher elasticities of demand for a country's exports than for its imports. T. C. CHANG concludes that both elasticities are low—export elasticities because of imperfect physical substitutability of products and because of monopolistic markets, import elasticities because of inability to substitute domestic production for imports. A general answer will not be ventured here, but the evidence suggests that for the eight countries in the present study which are predominantly industrial (that is, all but Scandinavia), export elasticity should be much greater than that for imports. Basic materials and food, either or both, take a heavy share of these countries' imports, and so one would expect their demand elasticity for total imports to be on the order of that of the United States, which we found to be low. On the other hand, their exports to the United States individually faced elastic demands. If their shares in rest-of-world consumption were comparable to their shares in United States consumption of the particular goods they export, one would expect world demand to have an elasticity like that of the United States.

This conclusion, in turn, has an implication for the comparative success of import restrictions and exchange-rate adjustments as devices for regulating the balance of payments. Where an industrial country is heavily dependent on imports for particular food and primary-material supplies, not only is its price-elasticity of demand for imports low, but the scope for import restriction will also be small. The main difference in the effects of the two measures will be seen in exports: Given the conclusion that export-demand elasticity is high, a price adjustment will succeed mainly because of the resulting increase of exports, while import restrictions, applied to an intractable list of imports, may have only small success.

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SUMMARY

Most studies of international demand determinants have found income to be the significant explainer of variations in both imports and exports, while price appeared to have only marginal importance. The present study deals with exports to the United States from eight European countries and gives support to a rather different conclusion: Two price variables—a price index of imports from a particular country, and an index of general-import prices—were significant and sometimes showed high elasticities. United States national income, on the other hand, was a poor explainer of imports from a country supplying finished manufactures, while industrial output was a fair explainer of imports from the suppliers of raw and semimanufactured materials.

Of the two successful price variables, general-import prices showed the higher numerical price elasticities. This fact was contrary to the theoretical expectation, and arguments were advanced for believing that there might be greater downward bias in the direct- than in the cross-price elasticities of demand. It was concluded that in general the higher of the two calculated elasticities came closer to the true price elasticity for the country concerned.

However, the findings, if taken at face value, also suggest that a European exporting country may be more successful in gaining dollar earnings at the expense of its rivals than at the expense of domestic United States producers. Elasticity with respect to United States domestic prices was low or insignificant; and total imports showed little price response.

If it were in fact difficult for the non-dollar world together or even for Europe alone, to adjust its dollar earnings by means of price, it would still be possible for

the countries involved to adjust both their dollar and their overall balances. For to the extent that they reduced prices competitively they would be induced to substitute imports from one another for those from the United States.

Finally, if the behaviour of overall United States imports can be taken as typical for manufacturing countries' imports, while particular countries' exports to the world as a whole respond to price much as do those to the United States, we can infer that their balance-of-trade adjustments to price will be mainly on the export, rather than on the import, side.

ZUSAMMENFASSUNG

Preise als Beeinflussungsfaktoren europäischer Exporte nach den USA. Die meisten Untersuchungen der Determinanten der internationalen Güternachfrage ergaben, dass das Einkommen als wichtigste erklärende Variable angesehen werden kann. Preiseffekten wurde demgegenüber nur eine nebensächliche Bedeutung beigemessen. Die vorliegende Studie, die die Exporte von acht europäischen Ländern nach den USA behandelt, kommt zu anderen Ergebnissen: Zwei Preisvariable, nämlich ein Preisindex der Importe aus einem bestimmten Land und ein allgemeiner Importpreisindex, waren signifikant und wiesen hohe Elastizitäten auf. Das amerikanische Volkseinkommen auf der anderen Seite zeigte eine geringe Korrelation mit Importen aus Ländern, die vorwiegend Fertigwaren liefern. Die industrielle Produktion jedoch war wiederum ein Erklärungsfaktor für Importe aus Ländern mit Rohstoff- und Halbfabrikatelieferungen.

Der allgemeine Importpreisindex zeigte von den beiden Preisvariablen die höhere Preiselastizität. Diese Tatsache widerspricht der theoretischen Erwartung, und es werden Gründe angeführt, die annehmen lassen, dass direkte Preiselastizitäten einen grösseren *downward bias* einschliessen als Kreuz-Preiselastizitäten. Der Schluss lautet, dass im allgemeinen die höhere der beiden berechneten Preiselastizitäten der wirklichen Preiselastizität für das jeweilige Land näher kommt.

Ausserdem weisen die Ergebnisse, wenn man sie in der vorliegenden Form akzeptiert, darauf hin, dass europäische Exportländer es leichter haben werden, höhere Dollarerlöse auf Kosten ihrer europäischen Konkurrenten zu erzielen als auf Kosten der amerikanischen Inlandproduzenten. Die Elastizität in bezug auf die amerikanischen Inlandpreise war sehr niedrig oder unbedeutend, auch Gesamtimporte zeigten eine geringe Reagibilität in bezug auf Preiseinflüsse.

Wenn es tatsächlich für die Nichtdollarländer zusammen oder für Europa allein sehr schwierig sein sollte, ihre Dollarbilanzen durch Preisveränderungen zu beeinflussen, so wäre es trotzdem den beteiligten Ländern möglich, ihre Zahlungsbilanzverhältnisse zum Dollarraum zu adjustieren. In dem Ausmass nämlich, in dem sie ihre Preise unter Konkurrenzdruck senken würden, würden sie auch dazu geführt werden, Importe aus dem Dollarraum durch Importe voneinander zu substituieren.

Schliesslich kann man annehmen – wenn das Verhalten der amerikanischen Importe als typisch für die Importsituation industrialisierter Länder gelten kann, und wenn die Exporte einzelner Länder insgesamt auf Preiseinflüsse etwa so reagieren wie die Exporte nach den USA –, dass Angleichungen der Handelsbilanzen an Preisveränderungen sich im wesentlichen auf der Exportseite, nicht aber auf der Importseite abspielen werden.

RÉSUMÉ

L'influence des prix sur les exportations d'Europe aux Etats-Unis. La plupart des études vouées aux facteurs déterminants de la demande internationale considèrent le revenu comme étant la variable la plus importante. Quant aux prix, on leur attribue généralement peu d'importance dans cet ordre d'idées. La présente étude, portant sur les exportations de huit pays d'Europe à destination des Etats-Unis, aboutit à des résultats bien différents: Deux variables – un indice des prix des importations d'un pays déterminé et un indice général des prix d'importation – se sont avérées significatives et ont atteint des élasticités élevées. Le revenu national américain n'a guère contribué à l'explication des importations en provenance de pays fournissant en majeure partie des produits manufacturés. Quant à la production industrielle, elle a fourni des indications précieuses pour l'explication des importations provenant de pays livrant des matières premières et des demi-produits.

Des deux variables précitées, c'est l'indice général des prix d'importation qui s'est distingué par l'élasticité de prix la plus élevée. Ce fait est contraire aux attentes théoriques. Certaines raisons alléguées semblent indiquer que les élasticités de prix directes comprennent un "downward bias" plus important que les "cross-price elasticities". L'auteur conclut que des deux élasticités de prix calculées, c'est généralement la plus élevée qui se rapproche le plus de l'élasticité réelle des prix pour chacun des pays en question.

Les résultats obtenues démontrent également – à condition qu'on les accepte dans leur présente forme – qu'il sera plus facile pour les pays exportateurs de l'Europe de réaliser des recettes de dollars plus importantes aux dépens de leurs concurrents européens qu'au détriment des producteurs américains Par rapport aux prix du marché intérieur américain, une élasticité très basse, voire insignifiante, a été constatée. En ce qui concerne les importations globales, l'auteur signale également une tendance très minime à réagir aux influences des prix.

Même s'il était réellement très difficile pour les pays n'appartenant pas à la zone du dollar (dans leur ensemble ou plus particulièrement en Europe) d'influencer leurs recettes de dollars par des modifications de prix, les pays en question pourraient redresser la situation de leur balance des paiements dans leurs rapports avec la zone du dollar. En effet, dans la mesure où ils baisseraient leurs prix sous la pression de la concurrence, ils seraient amenés à substituer par des livraisons entre eux leurs importations de la zone du dollar.

Enfin, s'il est possible de considérer comme typique pour la situation des importations de pays industrialisés le comportement des importations américaines et que les exportations de pays déterminés réagissent dans leur ensemble de la même manière que les exportations vers les Etats-Unis, on peut admettre que l'ajustement des balances commerciales aux modifications de prix se fera surtout du côté des exportations et non de celui des importations.

COST DISINFLATION AND EXPORT EXPANSION

A great deal of recent discussion of international trade has been concerned with the possibility and desirability of giving full play to the traditional principle of comparative advantage. This line of trade thinking seems to express itself in the policy position that cost disinflation is a *sine qua non* for the establishment and maintenance of balance of payments equilibrium[1]. Such a policy position is usually justified and defended on the ground that the structure of world economy has undergone those changes which call for long-term adjustments in the cost-price relation between trading nations. However, the decisive question of *how effective* cost disinflation would be in restoring a deficit country's balance of payments equilibrium remains to be debated. This note is an attempt to emerge with a quantitatively significant answer to that question. Such an attempt can be made most conveniently by reference to "fundamental disequilibrium" in the American balance of payments[2], though the following analysis would be found relevant to all advanced industrial nations who might be interested in expanding export trade through cost disinflation.

1. For example, Secretary of Treasury R. B. ANDERSON makes this "White Paper" statement: "Basic to this goal ("of promoting multilateral world trade") are our efforts to control inflation and thus to maintain a competitive cost-price structure." (See his "Essential Financial Policies for Sustainable Economic Growth", address before the American Economic Association and American Finance Association, Washington, DC, December 29, 1959.) Likewise the Committee for Economic Development states: "The first line of defense against continuation of imbalance in international transactions is a domestic anti-inflationary policy." (See CED, *National Objectives and the Balance of Payments Problem*, February 1960.)

2. For the relevant statistical data on the American *vis-a-vis* world (Western) trade and financial position for the post-reconstruction period and especially for the 1957–1959 period, see Federal Reserve Bank of New York, "The United States and the World Economy", in the 1959 *Annual Report*, p. 35 ff. That the United States is confronted, not by cyclical imbalance, but by fundamental disequilibrium, is clearly recognized in the dissenting statement by T. O. YNTEMA: "...our exchange rates are incompatible with the fundamental relation between costs of production here and abroad." YNTEMA then suggests "a readjustment in our exchange rates". (See The Committee for Economic Development, *ibid.*, p. 3.)

To put our analysis in proper perspective, it seems useful to outline the structural changes presumably providing the *raison d'être* of the cost-price approach to the problem of American payments difficulties, as follows:

(a) The preponderance of "cost-push" inflations in postwar advanced economies and especially in the American economy, carrying with it the implication that cost disinflation would lower the average export price of American products in world markets and so stimulate American export trade;

(b) The narrower technological gap between the American economy and other industrial economies (esp. West Germany and Japan), thus making further cost-price competition through technological improvements not only necessary but also desirable;

(c) The increased struggle for world markets due to the emergence of new export drives by the state-trading or/and industrializing nations, thus tending to challenge the position of the American economy as the dominant supplier of internationally tradeable products (analytically meaning the greater long-run price elasticity of world demand for American exports);

(d) The International Monetary Fund principle of exchange stability, coupled with the United States official policy of exchange fixity, rendering all the more imperative internal price adjustments rather than external exchange-rate manipulations for reversing fundamental disequilibrium in the American balance of payments.

These structural changes are widely believed to warrant increasing reliance upon the cost-price mechanism for restoring and maintaining the international balance of payments in general and American balance of payments equilibrium in particular. The reliability of the cost-price mechanism in the international field, however, depends fundamentally on the behavioral, technological and institutional assumptions which the analyst makes, explicitly or implicitly, about the domestic and foreign variables affecting balance of payments equilibrium. This is where we must turn to the analysis itself, both at the aggregative and the disaggregativ level.

Let us begin with the balance of payments equilibrium condition to be satisfied by any deficit country:

$$p_x X = p_m M, \tag{1}$$

where X is the volume of exports, M the volume of imports, p_x the average export price, and p_m the average import price (or the average export price from the standpoint of the rest of the world). Equation (1) simply states the familiar requirement that the value of exports must equal the value of imports. Here p_x and p_m respectively reflect the productivities of the export industry at home and abroad.

To show the influence of domestic efforts to disinflate costs upon the export price, it seems best to put p_m equal to one and then to derive p_x as follows:

$$w_x N_x = \lambda p x X; \qquad p_x = \frac{w_x/\varrho_x}{\lambda}, \tag{2}$$

where Nx is the labor-input of the export industry, w_x the average money-wage rate in that industry, ϱ_x the average productivity of labor in the same industry, and λ the distribution ratio of the export industry's wage income to its total income ($1-\lambda$ being the non-wage distribution ratio). Here X is to be considered the output of exportable goods as distinguished from home-market goods. Dividing both sides of $w_x N_x = \lambda p_x X$ by N_x and putting $X/N_x = \varrho_x$, we get the export price (p_x) capable of varying directly with the "efficiency wage rate" (w_x/ϱ_x) and inversely with the wage-distribution ratio (λ). Cost disinflation presumably would aim at increasing labor productivity (ϱ_x) relatively to the money-wage rate (w_x) in the export industry so as to decrease the export price (px), provided that the wage-distribution ratio is independently kept constant ($\lambda = \bar{\lambda}$).

The implication of equation (2) for any trading nation's competitive advantage is that the lower is the money-wage rate relative to labor productivity, the lower will be the export price relatively to the given world export price (expressed in p_m) and the greater will be export trade, *cet. par.* This is the reason why an exporting nation with a low efficiency-wage structure (w_x/ϱ_x) tends to gain a good deal of competitive advantage in world markets. This may also be the reason why JOAN ROBINSON has suggested that "the United States is just as likely to be a cheap labour country, in the sense that money-wage rates lag behind productivity, as Japan or China"[3]. However, in the case of the United States it is more likely that the "cheap labour"

3. See her "The Pure Theory of International Trade", *Review of Economic Studies*, Vol. XIV, No. 36, 1946/47.

state of affairs would arise more from technological improvements in labor productivity than from the depressing impact of "over-population" on money-wage rates. We shall return to this matter later.

The export price determined by (2) enters the export function of the form (the import-demand function from the standpoint of the rest of the world):

$$X = \Phi(p_x, Y_w), \qquad \left(\frac{\delta X}{\delta p_x} < 0, \frac{\delta X}{\delta Y_w} > 0\right) \tag{3}$$

where X is the volume of exports demanded by the rest of the world, Y_w world real national income or simply world effective demand, and p_x the export price in question. Equation (3) gives us exports of any trading nation not only as a decreasing function of the home export price but also as an increasing function of world effective demand. It implies that both the price-effect and the income-effect must be taken into account in considering disinflation as a possible export stimulant. Moreover, equation (3) calls for some explicit assumptions about the price and income elasticities of world demand for exports, such as

$$\eta_p \equiv \frac{p_x}{X}\frac{dX}{dp_x} \lessgtr 1, \text{ and} \tag{4}$$

$$\eta_y \equiv \frac{Y_w}{X}\frac{dX}{dY_w} \lessgtr 1. \tag{5}$$

The *price*-elasticity assumption expressed by (4) raises this question: Has the world economy undergone such structural changes as to make the American economy a competitive (if not marginal) supplier of exportable goods? If not, the price elasticity of world demand for American exports as a whole can be plausibly assumed to remain less than unity ($\eta_p < 1$). In that case the disinflation-induced fall in the American export price contemplated would not increase the *value* of exports even though the volume of exports would thereby be increased, for we would have $p_{x_2}X_2 < p_{x_1}X_1$ when $\eta_p < 1$ (where p_{x_1} and p_{x_2} are respectively the initial and the subsequent export price, and X_1 and X_2 the initial and the subsequent volume of exports). Then the American balance of payments would not be significantly improved, according to equation (1). This is not, of course, to deny the

possibility that the structural changes in the world economy mentioned at the outset may have made the United States a marginal supplier of *some* internationally tradeable goods. If so, the price elasticity of world demand for such particular American exports is likely to exceed unity and the American balance of payments would be improved to the extent that disaggregative disinflation resulted in the lowering of the prices of those exports. But it surely is implausible to assume that the United States has permanently become a marginal supplier of *all* exportable goods.

As for the *income*-elasticity assumption expressed by (5), the question it raises is: Has the income elasticity of world demand for American exports permanently become greater than unity ($\eta_y > 1$) for the same structural reasons? General observation and experience[4] seem to indicate that the world demand for manufactured goods and capital goods is more elastic with respect to world income than that for agricultural products and consumption goods. Since capital goods represent the bulk of American exports, especially to the underdeveloped areas, it may be plausible to assume that the income elasticity of world demand for American exports has greatly increased in recent decades. If the income elasticity coefficient far exceeds unity, then American exports (X) will fall in greater proportion than a fall in world income (Y_w), thereby offsetting any beneficial effect that the disinflation-induced reduction of the export price may have on the value of exports ($p_x X$) relatively to the given value of imports ($p_m M$)[5]. This implies that the American economy stands to gain by the greater than unitary income-elasticity of world demand for exports only so long as world effective demand is expanding. The difficulty here, though, is that the expansion of world effective demand depends heavily on imports into the United States which, being itself a major manufacturing economy with a low income-elasticity of demand for foreign-produced non-manufactures, would not increase its imports even during world-wide expansion as much as non-manufacturing economies would.

4. Cf. T. C. CHANG, *Cyclical Movements in the Balance of Payments*, 1951.

5. Apropos, the Federal Reserve Bank of New York observes that "an apparently increased sensitivity of our exports to business conditions abroad, together with a greater steadiness of our imports, seems to have made our trade position more vulnerable during world-wide recessions". (See the 1059 *Annual Report*, p. 41.)

This leads us to the import side of the analysis. The import-demand function of any trading nation may be expressed in the form

$$M = \Psi(Y_d, p_m), \qquad \left(\frac{\delta M}{\delta Y_d} > 0, \frac{\delta M}{\delta p_m} < 0\right) \tag{6}$$

where Y_d is the level of domestic real national income and p_m the import price representing the average export price of the rest of the world. Equation (6) gives us imports not merely as an increasing function of domestic income but also as a decreasing function of the import price. To incorporate the import-demand function given by (6) into our discussion, it is necessary to modify the export multiplier as follows:

$$\Delta Y_d = kt\Delta\bar{X}, \qquad \left(k = \frac{1}{m}, t = \frac{p_x}{p_m}\right) \tag{7}$$

$$\Delta M = m\Delta Y_d = mkt\Delta\bar{X}. \tag{8}$$

Here k is the export multiplier coefficient, t the terms of trade index, and m the domestic marginal propensity to import. Equation (7) is our solution[6] to the modified form of equation (1), and it implies that domestic national income would expand by an amount less than $k\Delta\bar{X}$ when the export price (p_x) falls relatively to the given import price (p_m), that is, when $t<1$. Equation (8) gives us induced imports including the influence of relative prices (p_x, p_m). If cost disinflation entailed a significant fall in the export price relative to the given import price (a smaller t), then induced imports would be smaller than $mk\Delta\bar{X}$, as equation (8) clearly indicates. In that case the balance of payments position would be improved.

However, in the specific context of the American economy there are some offsetting circumstances. First, as intimated earlier, the United States is not an "over-populated" country that could count

6. From $X = \bar{X}$, $M = mY_d$, and $p_x\bar{X} = p_mM$, we can derive

$$p_x\Delta\bar{X} = p_m\Delta M = p_mm\Delta Y_d,$$

solving for ΔY_d yields

$$\Delta Y_d = \frac{p_x}{p_m}\frac{1}{m}\Delta\bar{X} = tk\,\Delta\bar{X}.$$

upon keeping the money-wage rate low relatively to labor productivity (w_x/ϱ_x, in our notation) and hence upon keeping the export price low relatively to the import price (p_x/p_m). Second, the United States is a country with powerful organized business and labor tending to "administer" prices and "push" costs, the former expressing itself in a lower λ (the wage-distribution ratio in the export industry) and the latter in a higher w_x/ϱ_x, and thus, between them, increasing p_x, according to equation (2). For these reasons the beneficial effect of a disinflation-induced fall in t on the American balance of payments would not be so great as equation (8) appears to indicate.

Moreover, there is in the American economy a strong possibility of cost disinflation taking the form of increasing "innovational investment" ($\Delta\bar{I}$) designed to increase general labor productivity and particularly the productivity of the export industry (ϱ_x). Such a possibility would aggravate the difficulty of maintaining balance of payments equilibrium, since induced imports could increase according to

$$\Delta M = m\Delta Y_d = mkt\,(\Delta\bar{X} + \Delta\bar{I}), \quad (\Delta\bar{I} > 0) \tag{9}$$

which is obviously larger than that given by equation (8). The only mitigating factor here would be a positive and large marginal propensity to save (s) that could reduce the value of k via $k = 1/(s+m)$.

The foregoing analysis seems to warrant considerable scepticism concerning the theoretical soundness and practical wisdom of placing unilaterally so much reliance on the price mechanism in general and disinflation in particular for balance of payments equilibrium as some writers would have us do.

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SUMMARY

This note is an attempt to offer a quantitatively significant answer to the question: How effective is cost disinflation likely to be in restoring a deficit country's balance of payments equilibrium? This question is occasioned by such recent structural changes in the world economy as to intensify cost-price competition in inter-

national markets. In seeking the needed answer, the author has set up a system of equations to describe the relevant domestic and foreign variables affecting a trading nation's balance of payments—on plausible assumptions. The analysis made on the basis of that system leads to the following conclusions:

1. If a nation is not a marginal supplier of internationally tradeable goods, the *price*-elasticity of world demand for that nation's exports is likely to be so far below unity (trend value) as to worsen its balance of payments in consequence of a disinflation-induced fall in its export price, given the constant exchange rates and the constant level of effective world demand.

2. If a nation's exports consist largely of capital goods and manufactures, the *income*-elasticity of world demand for that nation's exports is likely to exceed unity so as to aggravate its balance of payments difficulties during a period of falling effective world demand possibly set off by some other nation's disinflationary drive, *cet. par.*

3. If a nation's cost disinflation increases its innovational investment (designed to increase general productivity), its induced imports are likely to increase via the foreign-trade multiplier and so to offset any beneficial effect that a disinflation-induced fall in the export price might have on its trade balance.

4. In sum, the analysis would make it theoretically unsound and practically unwise for any trading nation to place unilaterally excessive reliance on the price mechanism in general and disinflation in particular for balance of payments equilibrium—especially in this day and age of universal wage-price rigidities, income sensibilities and exchange-rate flexibilities.

ZUSAMMENFASSUNG

Kosten und Exportsteigerung. Der Beitrag versucht, eine Antwort auf die Frage zu entwickeln, ob eine "Kostendisinflation" ein wirksames Mittel sein kann, um das Zahlungsbilanzgleichgewicht eines defizitären Landes wiederherzustellen. Diese Frage erhebt sich aus neueren Strukturwandlungen in der Weltwirtschaft, die zu einer Zunahme des Kosten-Preis-Wettbewerbs auf internationalen Märkten geführt haben. Um das Problem zu bearbeiten, wird ein Gleichungssystem aufgestellt, das unter plausiblen Annahmen die relevanten Faktoren berücksichtigt, die auf die Zahlungsbilanz eines Landes einwirken. Die Analyse des Systems führt zu folgenden Schlüssen:

1. Ist ein Land kein Grenzanbieter eines international gehandelten Gutes, so wird wahrscheinlich die *Preis*elastizität der Weltnachfrage für die Exporte des Landes so weit unter 1 liegen, dass ein durch Kostensenkung verursachter Rückgang der Exportpreise die Zahlungsbilanz verschlechtern würde (bei gegebenen Wechselkursen und dem gegebenen Niveau der Weltnachfrage).

2. Bestehen die Exporte eines Landes hauptsächlich aus Investitionsgütern und Fertigwaren, so wird die *Einkommens*elastizität der Weltnachfrage für die Exporte des betreffenden Landes wahrscheinlich über 1 liegen, so dass die Zah-

lungsbilanzschwierigkeiten in Zeiten fallender Weltnachfrage, die durch deflationistische Massnahmen anderer Länder sinken kann, verschärft werden.

3. Wenn die deflationären Massnahmen eines Landes zu Investitionen führen, die das Produktivitätsniveau erhöhen, so kann es sein, dass die dadurch induzierten Importe via Aussenhandelsmultiplikator ansteigen und dadurch die Wirkungen einer Exportpreissenkung zunichte machen.

4. Zusammengefasst ergibt die Analyse, dass es theoretisch und praktisch unklug sein würde, wenn eine handeltreibende Nation sich allzusehr auf das Wirken des Preismechanismus verliesse, dies besonders in unseren Tagen allgemeiner Lohn- und Preisstarrheit, Einkommensvariabilität und Wechselkursflexibilität.

RÉSUMÉ

Le présent article peut être considéré comme la tentative d'une analyse quantitative des éléments d'un problème se résumant comme suit: «A quel point la déflation des coûts est-elle susceptible de rétablir dans un pays l'équilibre d'une balance des paiements déficitaire?» Cette question se pose en raison des récentes modifications de structure de l'économie mondiale rendant plus acharnée la concurrence des prix dans les marchés internationaux. Cherchant à résoudre ce problème, l'auteur établit sur la base de suppositions plausibles un système d'équations expliquant la fonction – sur le plan intérieur et extérieur – des principales variables susceptibles d'influencer la balance des paiements d'un pays intéressé aux échanges commerciaux. L'analyse conduit aux conclusions suivantes:

1. S'il s'agit d'un pays qui n'est pas un fournisseur marginal d'un produit appartenant au commerce international, l'élasticité des prix de la demande mondiale peut se situer – pour ce qui est des exportations de ce pays – bien au-dessous de un, de sorte que le déséquilibre de la balance des paiements du pays exportateur risque de s'accentuer par un recul des prix d'exportation déterminé par la déflation (en partant de taux du change donnés et d'un niveau donné de la demande mondiale).

2. Si les exportations d'un certain pays consistent en majeure partie de biens d'investissement et de produits manufacturés, l'élasticité du revenu de la demande mondiale sera probablement supérieure à un, pour ce qui est des exportations de ce pays; dans une période de baisse de la demande mondiale, pouvant être déterminée par des mesures déflationnistes d'autres pays, il peut en résulter pour le pays exportateur des difficultés accrues en ce qui concerne sa balance des paiements.

3. Si la déflation des prix de revient entraîne dans un pays l'investissement de sommes plus importantes dans le but d'accroître la productivité générale, il se peut que les importations additionnelles réalisées dans le cadre de ces investissements prennent une telle importance qu'elles neutralisent tout effet favorable que pourrait avoir sur la balance commerciale une chute des prix d'exportation déterminée par la déflation.

4. En résumé, l'analyse cherche à démontrer qu'en théorie comme en pratique il n'est pas indiqué de placer une confiance excessive dans l'influence exercée par le mécanisme des prix en général et la déflation en particulier sur l'équilibre de la balance des paiements, notamment à l'heure actuelle où l'on doit tenir compte de la rigidité du niveau des salaires, de la variabilité des revenus et de la flexibilité des taux du change.

SOME DOUBTS ABOUT THE "OVER-FULFILLMENT" OF JAPAN'S NEW LONG-RANGE ECONOMIC PLAN[1]

Japan's remarkable postwar economic recovery is often described in terms of the rate of increase of its national income, a rate higher than that of the United States and approximately as high as that of the Soviet Union. Between 1957 and 1959, the average annual rate of growth was 7.6 percent as compared with the planned rate of 6.5 percent[2]. In Japan, this evidence of "over-fulfillment" has seemed to suggest that the assumptions and objectives of the plan were, if anything, too modest. In the United States, when added to the "unfair competition" argument, it has formed a favorable climate for protectionist demands by those who believe that the United States should discriminate against imports from Japan[3].

The claim of "over-fulfillment", however, needs to be qualified in at least two important ways. First, quite apart from the policies and resources organized at home, Japan has received a remarkable series of windfall gains from abroad. The American aid program during the period of Occupation was a major factor in restoring a viable economy. Thereafter, American bases and direct and indirect American procurement in Japan for Okinawa, Formosa and other areas swelled the national income. The military conflicts in Korea and Suez were especially lucrative for Japan[4]. Given these windfalls from without, investment demand and consumer demand were reinforced in the domestic market.

Second—the aspect with which we are concerned here—if the sources and composition of Japan's national income are distinguished from the aggregate, we find imbalance in key details both at the levels of planning and of accomplishment[5].

1. Comments received from Professors J. S. Bain and M. Bronfenbrenner were greatly appreciated. The writer is also grateful for a grant from the Claremont College Research and Publications Committee.

2. *New Long-Range Economic Plan of Japan (FY1958–FY1962)*, Economic Planning Agency, Tokyo, 1957. The planned annual rate does not refer to the period mentioned in the plan's title but rather to 1956–1962. Seven observations from 1950 to 1956 comprise the "long term trend line" and targets were extrapolated in terms of 1956 as a base.

3. In the tuna industry, for example, demands for protection have been expressed as follows: "...we are sinking under the flood of Japanese tuna imports... In 1951 the Department of State reported to the Committee on Ways and Means, 'There is a substantial likelihood that if Japan does not have a reasonable opportunity to earn her own way by her trade with the free nations of the world, she may be compelled to either trade to a greater degree with the China mainland or to request increased economic and military aid of the United States.' In 1959 this situation has changed greatly. Japanese trade with the free world countries has reached an all time high. The Japanese economy is more prosperous and stable than it has ever been in history... Japan, far from demanding increased economic or military aid from the United States, is growing increasingly embarrassed by the economic and military aid she presently is given by us." Membership letter of the American Tunaboat Association, June 16, 1959, p. 6.

4. One of these windfall items has now been institutionalized: the plan assumes that American military expenditures ("Special Procurement") in Japan will amount to $250 million in the target year 1962. During 1956 they amounted to $587 million.

5. Where not otherwise specified, data used below are from the following sources, either as originally presented or as calculated therefrom: *Japanese Economic Statistics*, Economic Planning Agency; *Annual Return of the Foreign Trade of Japan*, Ministry of Finance; *Economic Statistics of Japan*, The Bank of Japan.

I. The Imbalance of Objectives

A primary objective of the plan is to reduce Japan's dependence on fortuitous outside factors such as those mentioned above. This is sought through a change in economic structure by which an "increase in the degree of self-sufficiency" will be achieved. Structurally, the role of heavy and chemical industries is to be enlarged while the role of light industry—particularly natural fiber textiles—is to be reduced. By this approach, an attempt will be made to eliminate bottlenecks in transportation, energy, and raw material and capital equipment supply. Another aim is to provide for "full employment". This requires the progressive liquidation of premodern types of enterprise where underemployment is typical. "Economic stability" is a further objective, concerning which Japan, as a marginal supplier, is especially sensitive[6]. All these objectives are to be pursued within "a system of basically free enterprise and free markets", with government intervention limited principally to indirect methods.

Some built-in conflicts among these objectives may be briefly sketched. At the outset, some of the plan's long-range objectives are incompatible in the short run; thus advance towards one may bring an automatic setback to another. For example, the plan to liquidate the dual structure of industry implies simultaneous liquidation of the dual structure of wages. Historically, the large firms (primarily producing exports) have paid relatively high wages, and small firms (including traditional types of enterprise) have paid relatively low wages. As the small firms become modernized, they lose their reservoir of underemployment which holds down wages throughout the economy. But with the wage level rising, consumption would also rise, which would threaten the level of saving. Without a continuing high level of saving and investment, the economy as a whole would become more vulnerable than ever to vicissitudes on the international plane[7].

The expanded role of heavy and chemical industries also implies at least a relative handicap in international trade. For in these industries the discrepancy between wages and efficiency in Japan is not so great as is the case in textiles and sundry goods. Thus in foreign markets, heavy and chemical goods lack the earning power of traditional Japanese exports. Moreover, the spread of higher wages from the heavy and chemical goods industries to other industries would tend to narrow Japan's comparative advantage in all commodities[8].

Besides carrying a smaller comparative advantage abroad, moreover, the heavy and chemical output is not yet fully competitive in price with similar products of Western countries. Until this is accomplished, there is a presumption

6. During boom times, Japan is usually the last (marginal) supplier to receive new orders, while during slack times orders previously placed with Japan are among the first to be cancelled. The marginal supplier effect intensifies the impact of external events, whether good or bad.

7. Instalment buying, which is becoming popular in Japan, is a way of increasing consumption without increasing wages. But it is not a way of increasing saving, which is indispensable to investment.

8. In 1959, average monthly cash earnings per regular laborer in establishments with 30 or more regular workers were as follows (in thousand yen): textile mill products, Y. 13; apparel and other finished products, Y. 10; lumber and wood products, Y. 14; furniture and fixtures, Y. 15. On the other hand, in chemical and related industries, it was Y. 26; iron and steel, Y. 32; electrical machinery, Y. 21; and in transportation equipment, Y. 28.

that some of these goods will have to be traded, as heretofore, under the protection of bilateral trade arrangements. This would impair Japan's new program for trade liberalization which is now supposed to be taking effect[9].

Even if competitive efficiency is achieved, the income elasticity of demand for heavy and chemical goods is higher than that for the products of light industry[10]. Thus both at home and abroad, emphasis on heavy and chemical goods output exposes Japan to more rather than to less fluctuation in demand, which adds to the difficulty of attaining the objective of economic stability.

Built-in conflicts given the achievement of the heavy and chemical objective are not the only type of difficulty. There are also obstacles prior to the achievement itself. As mentioned above, the modern-premodern dichotomy is largely equivalent to the distinction between large and small firms. Even the plan acknowledges, however, that as a result of the effort to concentrate investment in large enterprises, "the difference between small and big enterprises may become increasingly wide" (p. 75). Moreover, although the plan also emphasizes the desirability of modernizing small and medium enterprises, it is these which are acquiring the second-hand capital equipment cast off by the larger firms through rationalization[11].

Another element of imbalance concerns the full employment objective. The high capital-output ratio of the modern heavy and chemical sector implies, at least in the short run, an intensification rather than alleviation of the unemployment and underemployment problem. As the capital-output ratio is raised, a given value of output can be produced by a smaller number of workers. Unless the heavy and chemical sector expands at a rate sufficient to absorb workers rendered unemployed by the change in the composition of industry, they will fall back into the premodern, traditional sector, or into the services sector, where underemployment flourishes.

The self-sufficiency objective, as the plan acknowledges (p. 162), is hindered by the need of an economy based on heavy and chemical industries for relatively larger quantities of crude material imports. The expansion in Japan's exports which would be necessary to pay for these increased imports has been predicated on the assumption that "world trade will increase about 4 to 5 per cent during the coming years. If the actual rate of expansion of world trade should fall below this level, the fulfillment of the plan would be adversely affected." Indeed, in assessing results through 1959, the Economic Planning Agency states, "The reason why a higher rate of growth than that provided for in the Plan was possible was that the

9. The trade liberalization program calls for dismantling of exchange control and import licensing restrictions. Simultaneously, on the other hand, the tariff structure is being reexamined, with results which may cancel out some of the benefits of "liberalization". Moreover, there is increasing pressure for the formation of industry-wide import associations. In the iron and steel industry, for example, "...majority opinion in the industry favors the establishment of an organ which would handle the imports of scrap iron exclusively..." *Japan Report*, Consulate-General of Japan, New York, March 1, 1960, p. 10. Another countervailing factor is anticipation that the most unfavorable consequences of true liberalization would be felt in the heavy and chemical industries. See *Monthly Circular*, Mitsubishi Economic Research Institute, Tokyo, April 1960, p. 15.

10. The machinery industry, for example, is "one of the most cycle-sensitive industries of any advanced economy". M. BRONFENBRENNER, "*Long-Range Projections of Japanese Economy*", Seijo University Economic Papers, No. 10, July 1959, p. 18.

11. *Monthly Circular*, Mitsubishi Economic Research Institute, Tokyo, May 1959, p. 12.

world economy had developed more favorably than was expected..."[12]. Accordingly, the "overfulfillment" achieved thus far has not liberated Japan from the foreign trade bottleneck. In fact, if Japan becomes more rather than less integrated into the world economy, as the trade liberalization program implies, the role of adventitious outside forces will be further intensified.

II. The Imbalance of Accomplishments

As mentioned above, for purposes of calculation the base year of the plan is 1956. Although intermediate targets are not given, we may assume that by 1959, the midpoint of the period 1956–1962, roughly half the distance between the base and the 1962 targets should have been traversed. As data for 1959 are now available, the present moment is particularly appropriate for a statistical review[13].

The major breakdown of income presented in the plan falls into three categories—income from primary, secondary and tertiary industries. Primary industry includes agriculture, forestry and fishing; secondary includes manufacturing, construction, mining, public utilities, transportation and communication; tertiary includes trade, finance, and services. It is the secondary industries which "are considered to be the major driving force behind the economic development of the future". It is here that the chief advances in productivity as well as in production are to be achieved. This being the case, the peculiar interrelation of several facts is of interest.

The first concerns the place of secondary industry within the plan itself. The transformation of secondary industry is to be sought not only in terms of structure (which by increasing the capital-output ratio is to increase the degree of domestic value added to imported raw materials) but in terms of efficiency (rationalization, modernization, and "liquidation" of premodern firms)[14]. It might be expected, therefore, that secondary industry should provide a significantly greater proportion of the national income in the target year than ever before. In particular, one would expect that the planned increase in income produced during 1962 would be proportionately much higher in secondary industry than in tertiary industry, where residual under-employment accumulates. As planned, however, the increase (less than 2 percent) in the proportion of national income to be obtained from secondary industry is no greater than that expected from tertiary industry; moreover, the planned level of secondary sector incomes (43.6 percent of national income) is only slightly greater than that planned for the tertiary sector (40.7 percent of national income) in the target year. Clearly, the planners made it easy for secondary industry targets to be "over-fulfilled".

12. *Comparison of "New Long-Range Economic Plan" and Actual Results* (translation prepared for The Indian Statistical Institute), Economic Planning Agency, February 1960, p. 3.

13. The "representativeness" of 1959 is affirmed by the *Oriental Economist* which has chosen it as the new base year for its revised cost of living index.

14. A current controversy among Japanese economists concerns evaluation of the capital-output ratio. Optimistic arguments from the Ministry of Finance claim that the capital-output ratio in secondary industry is so favorable that if investment were concentrated there, Japanese national income could double in ten years.

The outlook for secondary industry is also expressed in an unconsciously pessimistic way in another dimension at the planning stage. Taking observed values for 1956 in relation to planned values for 1962, the index of industrial production is to rise by 60.7 percent, whereas domestic national income is to rise by only 42.9 percent. The plan's pessimism on the output-income relation is justified when we compare the actual records of these items. In 1958, the latest year for which a breakdown of national income is available, the index of industrial production showed an increase of 17.0 percent over 1956; at the same date, the income produced in the secondary sector was only 11.7 percent greater than in 1956[15]. This combination of facts casts doubt on the productivity claims made for the plan, for the relation of output to income is inverse to what we would expect.

Japanese Domestic National Income by Industrial Origin
(fiscal year data)

	Base Values	Actual Observations			Planned
	1956	1956	1957	1958	1962
	(billions of yen)				
Total domestic national income	7,413.6	7,563.3	8,208.0	8,484.2	10,811.0
Primary industry	1,418.6	1,455.9	1,533.3	1,561.0	1,694.0
Secondary industry	3,101.9	3,778.3	4,116.7	4,219.5	4,717.0
Tertiary industry	2,893.1	2,329.1	2,558.0	2,703.7	4,400.0
	%	%	%	%	%
Total domestic national income	100.0	100.0	100.0	100.0	100.0
Primary industry	19.1	19.2	18.7	18.4	15.7
Secondary industry	41.8	50.0	50.2	49.7	43.6
Tertiary industry	39.0	30.8	31.2	31.9	40.7

Source and Note: Trend line base values and 1962 targets from *New Long-Range Economic Plan of Japan (FY1958–FY1962)*, Economic Planning Agency, Tokyo, 1957. Actual observations from *Japanese Economic Statistics*, June 1960. The latter data were adjusted to include transportation, communication and other public utilities as secondary industry in accordance with the categories of the plan. It is curious that Economic Planning Agency figures for secondary industry as published in *Japanese Economic Statistics* differ substantially from figures by the same agency published in its *Comparison of "New Long-Range Economic Plan" and Actual Results* (translation prepared for The Indian Statistical Institute), February 1960, p. 18. According to *Japanese Economic Statistics*, the adjusted figures for secondary industry show that in 1956 secondary industry represented 50.0 percent of domestic national income rather than 42.3 percent as given in the *Comparison*. On the possibility that some undisclosed explanation of this discrepancy exists, no use is made of it in the present paper. If the version in *Japanese Economic Statistics* is correct, however, it is clear that the plan for secondary industry to produce only 43.6 percent of the national income in 1962 calls for retrogression rather than progress.

15. The burst of output in 1959 raised the index of industrial production 44.4 percent higher than it was in 1956. In terms of income, however, for which we have a preliminary GNP figure, the corresponding increase was only 30.5 percent.

On productivity grounds, the performance is also disappointing in terms of the relation of input to output. For in terms of employment, an increase of 13.2 percent in the number of those employed in secondary industry was projected for the entire period 1956–1962—but at the halfway mark in 1959, the increase was already 14.3 percent, or more than the increase that was considered necessary to raise output from the 1956 level to the target level for 1962.

The composition of output may cast additional light on the income-output relation. The main component of progress in total industrial activity during 1956–1959 was contributed by manufacturing, within which, in turn, heavy industry, as distinguished from either chemical or light industry, made notable gains[16].

As mentioned above, the heavy industries require considerably more imported materials than the chemical industries, and it may be that heavy industry's increased contribution to national income via more roundabout production was outweighed by the high proportion of imported crude materials consumed[17]. Therefore the relatively greater expansion in heavy as opposed to chemical industries may have depressed the relative contribution to national income of the secondary sector as a whole. Incidentally, unbalanced expansion of this type does not conform with the major objective of reducing Japan's import dependence.

A comparison of targets with accomplishments in the field of foreign trade is our next step in evaluating progress under the plan. Qualitatively, there has been a failure to approach stability in foreign trade in addition to the failure to reduce import dependence. Moreover, given the well-known volatility of Japan's exports, plus the expectation of relative stability in imports because they are subject to the government's foreign exchange control budget, it is surprising that the level of total imports has been decidedly erratic as compared with the level of total exports during the first half of the planning period[18].

At the commodity group level, imports have also been more erratic than exports, although two general tendencies have developed persistently. First is the substantial increase in the relative importance of crude materials imports; second

16. This conclusion is based on a study (in physical units) of the 50 individual items listed in the plan as "Key Commodities" in production. Heavy industry items and chemical industry items appear in the list in roughly equal numbers. The number of instances in which the expected 1959/1956 output ratio is conspicuously exceeded is also nearly the same for both heavy and chemical industries. However, the number of instances in which chemical industry products notably fail to reach their expected 1959/1956 ratio exceeds the corresponding number of cases of failure in heavy industry. It is not merely the number of cases of failure which is larger in the case of chemicals, but also the importance of the items in arrears which suggests that chemical industry has contributed substantially less to Japan's economic expansion than has heavy industry. Its products whose output notably exceeds the expected 1959/1956 ratio include ordinary hot-rolled steel, electrolytic copper, galvanized iron sheets, ships, small 4-wheeled trucks, small automobiles, and train coaches and tramcars. Chemical industry products which notably exceed their expected 1959/1956 output ratio include synthetic dyestuffs, ureal resins, vinyl chloride, industrial explosives, soap, and paints. Heavy industry products which significantly fail to achieve the expected 1959/1956 output ratio include glass products and electric locomotives. Chemical industry products which significantly fail to achieve the expected 1959/1956 output ratio include rayon filament yarn, rayon staple yarn, ammonium fertilizer, calcium cyanamide, and calcium superphosphate.

17. This possibility seems particularly reasonable in view of the fact that the output of domestic crude materials is behind schedule. Substantially less than half the increment in mining output scheduled between 1956 and 1962 was actually achieved by 1959.

18 The ratio (in percent) of total imports to national income was 17.6, 18.9 and 13.2 in the three years 1956–1959 respectively, as compared with 12.7, 12.6 and 12.5 for exports during the same period.

Japanese Foreign Trade, by Major Commodity Group
(in millions of dollars)

	Total	Food	Crude Material	Semi-manufactured goods	Manufactured goods	Miscellaneous
			Imports into Japan			
1953	2,409.6	670.0	1,173.5	251.7	313.0	1.4
1954	2,399.4	713.3	1,120.2	247.5	314.8	3.6
1955	2,471.4	718.4	1,170.8	283.9	295.8	2.6
1956	3,229.7	650.6	1,890.9	346.4	338.6	3.2
1957	4,283.6	645.5	2,327.0	683.1	622.2	5.8
1958	3,033.1	598.3	1,622.0	271.8	535.9	5.0
1959	3,599.5	541.8	2,109.6	371.6	570.4	6.1
			Exports from Japan			
1953	1,274.8	133.1	42.1	318.0	769.7	11.9
1954	1,629.2	136.5	47.7	449.2	992.2	3.6
1955	2,010.6	138.4	64.9	621.2	1,178.1	8.0
1956	2,500.6	176.2	99.4	513.8	1,701.7	9.5
1957	2,858.1	180.5	92.7	550.1	2,024.3	10.5
1958	2,876.6	230.4	80.8	575.1	1,977.6	12.6
1959	3,456.5	252.6	113.3	581.8	2,495.8	13.0

Source: *Japanese Economic Statistics*, Economic Planning Agency, Tokyo.

is the decline in the relative importance of food imports. While the first tendency is likely to be enhanced as the structure of industry changes, the second may not. Impressive increases in the output of Japanese agriculture in recent years resulted in an absolute decline in the value of food imports, while at the same time this reduced absolute amount represented an ever-diminishing proportion of rising total imports. It seems unlikely, however, that agriculture's recent rate of increase in output can be maintained; therefore if food imports continue to decline in relative importance it will be because of the increasing amount of imports of other commodities. Indeed, as a main source of the total advance actually attained by the economy thus far during the planning period, agriculture will have to run fast merely to stay in the same place.

Below the level of the commodity groups, it is interesting to look at what the plan identifies as principal individual import and export commodities, for these reveal the items which entered importantly into the structure of the plan. Erratic fluctuations are especially pronounced during the period under review in the case of imports of iron and steel scrap (the price of which is very unstable) and of pig

iron. Imports of petroleum products conspicuously exceeded in every year since 1956 the imports planned even for the target year[19].

In the case of individual export commodities, we find that at least eight of the 15 principal commodities specified (cotton yarn, woolen yarn, rayon filament yarn, cotton fabrics, paper, phosphoric fertilizers, cement, and aluminum) at the end of 1959 were far short of the interpolated schedule for that year. Only three of the fifteen (ordinary hot-rolled steel, special hot-rolled steel, and calcium cyanamide) may be considered to have performed especially well. In the case of steel exports, windfall demand resulting from the steel strike in the United States during 1959 was mainly responsible. And in all three cases, the erratic fluctuation of these exports over the period 1956–1959 shows an instability which it is the avowed objective of the plan to overcome.

On the whole, performance of the commodities in both the principal lists of imports and exports suggests that structural problems lie beneath the comfortable appearance of the expanding aggregates. Further evidence for this conclusion arises from a review of the distribution of Japan's foreign trade by country of origin and destination. This pattern is seriously unbalanced. In 1959, for example, 41.4 percent of Japan's imports originated in North America, whereas it is expected that in the target year only 25.4 percent of Japan's exports will find a market in that continent[20]. If exports are required to pay for imports, this is obviously an awkward situation for a country still committed to bilateral arrangements. It remains to be seen what liberalization can do for the problem of an unbalanced trade pattern.

A hazard facing Japanese trade liberalization is presented by the regional blocks in Europe, Latin America and elsewhere, which in their formative stages may divert more trade than they create. At the same time, an interesting possibility lies in the fact that Japan and the United States are the two principal trading nations in the world which remain outside all regional arrangements now contemplated. If this were to result in a higher level of balanced trade between the two, most of the difficulties mentioned above might be swallowed up. Whereas the drive towards "self-sufficiency" represents the pessimistic version of Japan's role in the world economy, "liberalization" represents the optimistic view. Therefore conditions exist for Japan to be pushed as well as led in either direction.

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19. In setting up a yardstick for the comparison of plans with progress in our discussion of national income and production, we measured the advances made over and beyond the level achieved during the base year of the plan. According to the methodology of the plan, however, "To estimate the scale of the foreign trade in the expanded economy in the target year, the amount of imports deemed necessary to maintain projected economic activities was first figured out. Then, it was studied whether it would be possible to export to the level proportionate to the estimated amount of import. Based on the above findings, the plan was worked out." *New Long-Range Economic Plan*, p. 157. For this reason, as well as the fact that imports and exports were not necessarily well balanced during the base year, our criterion of the level against which the relative change of imports and exports can be measured should be taken not from the base year of the plan but rather from the target year.

20. The export target for 1962 is from the Economic Planning Agency as quoted in M. BRONFENBRENNER, *op. cit.*

INCOME DISTRIBUTION AND TECHNICAL PROGRESS

The publication of a series of papers read to the Committee on Economic Theory of the *Verein für Sozialpolitik*[1] under the chairmanship of ERICH SCHNEIDER provides a welcome opportunity to discuss some lines of development in German economic theory. Up to now, continental economic thought has drawn heavily on English and American work. The three papers by NIEHANS, BOMBACH and OTT, however, do communicate really new impulses in a number of directions.

The link between the contributions of the three writers is a loose one. The most interesting paper, from the viewpoint of economic theory, is the article by NIEHANS, dealing with the effects of wage increases, technical progress, taxation and saving habits upon prices, production and income distribution. NIEHANS sacrifices simplicity and perspicuity in the interest of a closer approach to reality. He sets up a model of a closed economy. The model consists of 14 equations containing the same number of unknowns. Prices and wage rates are introduced explicitly, thus, a distinction is made between real and nominal variables—a big advance on most of the usual Keynesian systems. Interdependence of relationships is stressed throughout. But this leads us into non-linear systems with all their difficulties. NIEHANS gets round them by total differentiation of each equation: i. e. in place of absolute magnitudes of wages, profits, consumption, investment etc. he concerns himself with their *variations* from a given initial situation. Since, in the case of total differentiation, terms of higher order are neglected, one arrives at a linear system, with its arithmetical advantages. True, there is a price to be paid for this, namely that all results are valid only for *small* variations, i. e. for the short run.

Let us examine the system a little more closely. NIEHANS divides his equations into definitions, behavioural equations and equilibrium conditions. Basically, the last-mentioned are likewise behavioural equations, so that this distinction is rather one of form.

The *definition equations* are

$$Y = y\,p \tag{1}$$

nominal gross national product (GNP) Y is representable as product of the real national product y and the price-level p.

$$Y = L + Q + A: \tag{2}$$

from the standpoint of origin, GNP is composed of wages L, profits Q and depreciation charges A[2].

1. J. NIEHANS, G. BOMBACH und A. E. OTT, *Einkommensverteilung und technischer Fortschritt*, herausgegeben von E. SCHNEIDER, Schriften des Vereins für Sozialpolitik, Neue Serie, Bd. 17. Berlin 1959. Duncker & Humblot. 202 pp.

2. Here indirect taxes are left out, at any rate when the matter in hand is GNP at market prices and this is measured as in (1). In later sections of his study NIEHANS presupposes that in the initial situation no indirect taxes are levied.

$$L = b\,l: \tag{3}$$

the wage-total L is the product of the number of employed b and the average wage-rate l per period.

$$A = a\,p: \tag{4}$$

the depreciation charges are calculated from real capital consumption a and price-level p.

$$Y_N = C_L + C_Q + I + A: \tag{5}$$

on the expenditure side, GNP (Y_N) is composed of the consumption of wage-earners C_L and profit-receivers C_Q, of net investment I and of reinvestment A.

The *behavioural equations* are:

$$p = p(y) + \pi: \tag{6}$$

the price-level p is a function of real production y and of a parameter π. The equation expresses the sales expectation of entrepreneurs[3]. In $p(y)$ we have also a reflection of the average degree of monopoly of the economy; the greater the degree of monopoly, the higher must the price-level be which will result from the given real production.

$$l = l(p, b): \tag{7}$$

the wage-rate l is a function of price-level p and employment b.

$$y = y(b, a): \tag{8}$$

the real product y depends upon employment b and real capital consumption a. Here the lastmentioned stands for the stock of capital, thus its degree of utilisation also taken into account[4]. (8) is the aggregate production function of the economy.

$$C_L = C_L(L, p), \tag{9}$$

$$C_Q = C_Q(Q, p): \tag{10}$$

the consumption of the wage-earners and profit-receivers depends on their income and on the price-level.

$$I = I(Q, p, l): \tag{11}$$

net investment is a function of profits, prices and wages.

The *equilibrium conditions* are as follows:

$$\frac{l}{p} = \frac{\frac{\partial y}{\partial b}}{\frac{\partial y}{\partial a}}: \tag{12}$$

3. Thus $p(y)$ is a kind of demand function; π causes a parallel shift of this function.

4. That is to say, in so far as depreciation charges conditioned by production preponderate over those conditioned by age. But it looks as if, in modern industry, the converse is rather the case.

the ratio of wages to prices must equal the ratio of the marginal products of labour and capital. This is the minimum-cost condition[5].

$$p + \frac{\partial p}{\partial y} y = \frac{p}{\frac{\partial y}{\partial a}} + \frac{\partial p}{\partial y} b \frac{\partial l}{\partial p} + \frac{\partial p}{\partial y} a: \tag{13}$$

marginal revenue must equal marginal cost. That is the condition for the maximisation of profits[6].

$$Y_N = Y: \tag{14}$$

national product is the same from the standpoint of origin and from that of expenditure.

This completes the basic model propounded by NIEHANS, from which (with occasional small variations of certain assumptions) everything else follows. What are the comments to be made?

Except for the absence of indirect taxes, the definition equations keep to the structure of the national accounts and include the wage and price-level explicitly. As already mentioned, that is a great advance. The behavioural equations give rise to difficulties of interpretation. In some cases they are comprehensible only when not considered exclusively as macro-economic relations—although they are that too—but as micro-economic. They are derived for a representative firm but are set forth only after aggregation over all firms. Thus equation (6) for the price-level corresponds to the demand function for the representative firm.

The variable π, which is supposed to express the shift in the sales expectations of enterprises, is puzzling. One could just as well introduce some parameter or other into all of the remaining behavioural equations and even into the equilibrium conditions, and this would then, of course, have to be given a correspondingly

5. The derivation can be taken as known.

6. The profit is (13a) $Q = yp—lb—ap$ where p is taken as a function of y ($p = p(y)$ in conformity with [6]), and l as a function of p, which in its turn depends on y: $l = l\,p(y)$; the dependence on b, actually still postulated under (7), is dropped again by NIEHANS (*loc. cit.* p. 24); further, b and a are functions of y and a or b, as the case may be (as inverse functions of [8]).

The profit reaches its maximum if

$$\frac{\partial Q}{\partial y} = p + y \frac{\partial p}{\partial y} - b \frac{\partial l}{\partial p} \cdot \frac{\partial p}{\partial y} - l \frac{db}{dy} - a \frac{\partial p}{\partial y} - p \frac{da}{dy} = 0 \tag{13b}$$

NIEHANS, taking the cost-minimisation condition (12) and making use of $dy = \frac{\partial y}{\partial a} da + \frac{\partial y}{\partial b} db$ in accordance with (8), now substitutes for the terms $-l \frac{db}{dy} - p \frac{da}{dy}$ in (13b):

$$-\left(l \frac{db}{dy} + p \frac{da}{dy}\right) = -\frac{ldb + pda}{dy} = -\frac{p}{\frac{\partial y}{\partial a}} \cdot \frac{\frac{l}{p} db + da}{\frac{\partial y}{\partial b} db + da} = -\frac{p}{\frac{\partial y}{\partial a}}. \tag{13c}$$

This gives (13).

The reason for no longer making wages depend on employment lies in a different way of looking at the question. The wage function (7) is to represent a macro-economic relationship. Now, however, the micro-economic aspects become dominant. With perfect competition on the labour market, the dependence of the wage-rate on employment lapses. Since NIEHANS does not explicitly show the transition from the micro- to the macro-economic standpoint, interpretation of his procedure is not always quite simple.

different economic interpretation. Thus, for the shift in sales expectations a special variable is introduced, whereas shifts in the consumer function, investment function, production function and so on are not shown. NIEHANS manifestly intended, by means of this variable, to build in a stabiliser which would assimilate the expected magnitudes to the actual ones. In my opinion this could be done more satisfactorily in a different way, e.g. by explicitly distinguishing expected from realised magnitudes and introducing expectation functions. Yet, as the system stands, a variable like π is certainly necessary, and there is much to be said for bringing it into equation (6). Otherwise the number of equations would exceed the number of unknowns. Normally there would be a contradiction in the system, i.e. an equalization of production and demand would not take place.

The wage function (7), too, can best be interpreted in micro-economic terms. Here it is assumed that the individual entrepreneur is not aware of the dependence of the wage-level on employment—hence the omission of this relation in the profit-maximisation condition[7]—but that he *is* aware of the dependence of the wage-level on the price of the end product. But even this may be doubted. In the fixing of wages so many different pressures play a part that it is preferable to regard the level of wages as exogenous. NIEHANS fitted the price- and employment-dependence of the wage-level into his system for the sake of greater generality, and from that standpoint there could hardly be any objection to it.

In conclusion, attention must be drawn to the peculiarity of the investment function (11). Here the dependence of investment upon profits is taken into account following the example of TINBERGEN; increase in demand (as acceleration principle) and interest rate are not included among the determining causes. NIEHANS explains that omission by pointing out that the tendency of this influence is known, anyway, and that the gain in additional results would hardly offset the increased clumsiness of the machinery (*loc. cit.* p. 12). I should have been inclined to insert the rate of interest at all events as an exogenous variable—which would hardly have increased the difficulties of calculation and would have meant that the monetary influences, consciously excluded elsewhere, would have come into evidence at least in one place.

With regard to the equilibrium conditions, it is noticeable that, side by side with a profit maximisation (13), there is also a cost-minimisation condition (12), whereas profit maximisation always implies minimisation of costs. But NIEHANS' equation (13) is meant to determine only the optimum production quantity of a *given* cost curve. Equation (12) determines precisely this cost curve from the minimum-cost condition. Accordingly the latter is substituted in the derivation of (13). Otherwise (12) could be derived from the profit-maximisation condition (13). It would surely be better to call (13) "Condition for the optimum production quantity".

As regards the last of the equilibrium conditions (14), it should be pointed out that, if the ordinary definition of the profit Q as *actual* profit is taken, there is no equilibrium condition but a case of identity. This follows from the definition

7. In the global system $l = l(\hat{p}, b)$ is postulated as equation (7); in the derivation of equilibrium condition (13), on the other hand, $l = l(\hat{p})$ is applied; cf. note 6 above.

equations (2) and (5)[8]. So NIEHANS must have had in mind not the actual but the expected profit.

Those are a few reflections about the NIEHANS system[9]. Since everything afterwards proceeds "automatically" (according to the rules of calculation, without any possibility of checking economic correctness), very special attention should be paid to the foundations.

The basic model (1) to (14) is totally differentiated: i.e. instead of taking absolute values of the variables, consideration is concentrated on their variations from a given point of departure. At the same time the system is linearised, in that the resulting partial derivatives are considered as structural constants. Here the question, of course, arises: are they really that? For some of the partial derivations, such as, for instance, marginal propensity to consume, there is no doubt about it, but in other cases there will be a query, e.g. with regard to the reaction of investment to wage changes. For, to a very considerable extent, they depend upon the current market conditions *(Konjunkturzustand)* and are also basically a derived magnitude, not a structural constant in the strict sense. For this reason, too, the short-term character of the analysis must be stressed.

If, then, the symbol dx is assigned to the column vector of all variations of the 14 variables of the original NIEHANS system and the symbol H to the quadratic matrix of the coefficients resulting from the total differentiation (with 14 lines and columns), and if, in just the relevant equations, shift parameters are inserted which are taken together to form the column vector $d\lambda$ (also with 14 elements, among which, however, all except one are zero), this produces the linear system

$$H\,dx = d\lambda.$$

The solution

$$dx = H^{-1}\,d\lambda \tag{15}$$

is calculated by NIEHANS for various $d\lambda$'s. Thus one arrives at the answer to the question how the variables of the system (e.g. GNP, prices, wages, profits) vary when a behaviour function shifts. Because of the linearisation, minor shifts are, of course, the only ones that can be envisaged, as has already been said. This makes it possible to construct the basic model more or less without regard for its practical solvability, concentrating on economic correctness, and yet to make use of the relatively simple machinery of linear algebra. The price that has to be paid for this consists (let it be said once more) in the necessary limitation to small variations; in other words, we are confined to short-run observations. Phenomena of growth and cyclical movements have to be left out. Yet, despite these limitations, this line of approach by NIEHANS is a further step towards reality and away from over-simplified models. It deserves to be followed up.

For the partial derivatives, i.e. the elements of H, NIEHANS specifies estimated ranges. Unfortunately, these ranges are so wide that really unambiguous answers

8. If profit is defined as the difference between *actual* receipts and costs: $Q = C_L + C_Q + I + A - L - A$ and if this is substituted in (2), we have, by comparison of (2) and (5), $Y_N = Y$.

9. I am indebted to my colleague NIEHANS for numerous additional explanations, which he gave me and which disposed of some misinterpretations on my part.

to the question regarding the effects of spontaneous variations $d\lambda$ are comparatively seldom forthcoming. But this is not inevitable. For even if every element of H can fall within a relatively wide range, not all of these values are compatible with one another[10]. There NIEHANS has made things unnecessarily difficult for himself. If he had taken as his basis definite values of the elements of H and ones which are characteristic of certain economic situations, he would have arrived at more definite results. If the sensitivity of the solution in relation to variations of the elements is duly established and all over-sensitive results are eliminated, everything has been done that the reliability of the result requires.

With his method, NIEHANS only sometimes arrives at definite results. First he examines the effect of spontaneous wage-increases on prices, the other behaviour functions remaining unchanged. Unfortunately his model makes anything whatsoever seem possible: prices can rise more or less than proportionately and they can even fall; it all depends on the special values of the behaviour parameters. At all events, that is true of independent variations of the behaviour parameters in the really wide ranges adopted by NIEHANS. If one were to include only such values of the behaviour parameters as are characteristic of definite economic situations, one ought to arrive at a useful result.

NIEHANS then establishes the conditions under which prices will rise proportionately or more than proportionately to the original spontaneous wage-increase (*loc. cit.* pp. 54–56). Sufficient conditions are established. They chiefly relate to the degree of competition within the economy, the repercussion of prices on wages, changes in consumer and investment demand in consequence of price-increases, and so on. The *necessary* conditions must surely be much more complicated.

Then NIEHANS turns to the effect of *technical progress* on prices, employment, capital input, wage-rate, etc. Here again there is unfortunately no general result: the effect is uncertain. Only for one special case—neutral technical progress, perfect competition on the commodity market, constant wages, to name the most important assumptions—there is clear evidence: prices must fall; on the other hand, some uncertainty remains with regard to the development of production and the distribution of incomes.

As regards *tax effects*, which are then examined, the consequence of increases in *profit taxes* is unambiguous, as long as the increased tax proceeds are not spent again: there is pressure on prices and a decline in employment. But, strange to say, when we come to the effect on production, already the result is no longer unambiguous. The same is true of an increase in *wage-tax* and *turnover tax*. Additional *state expenditures* with unchanged taxation will cause the price-level and rate of employment to rise; its influence on GNP remains uncertain.

Examination of the effect of *saving by entrepreneurs and workers* leads to the same conclusion as with profit and wage taxes, i.e. for the most part uncertainty

10. For instance, NIEHANS (*loc.cit.* p. 39) sets an upper limit $a = 0.3$, $b = 0.7$. Since (*loc.cit.*, pp. 31 and 32) he standardises $l = p = y = l$, wages and depreciation charges work out at 1.1, whereas GNP is only 1. This would mean an enterprisers' loss of 10% of the social product—a situation which one would not normally have to take into consideration.

prevails. On the other hand, NIEHANS obtains the result that for prices, production and distribution of incomes it is immaterial in what proportion a given quantity of savings is amassed respectively by workers and by entrepreneurs—an assertion which challenges opposition and can surely be accounted for only by special peculiarities in his model. As regards distribution of income, the calculations suggest (even if there is no certainty) that technical progress impairs the distribution for wage-earners (*loc. cit.* pp. 63–65) and a profit tax improves it (*loc. cit.* p. 74); with regard to wage and turnover taxes the result is generally unclear (but here, too, a fully worked-out numerical example (*loc. cit.* p. 79) points to an improvement in distribution for the wage-earners). If all the tax receipts are spent again, the result for wage tax is reversed, at any rate in the numerical example. Increased saving (both on the part of wage-earners and of profit-receivers) acts like a wage tax; thus it presumably improves the distribution for the wage-earners.

If these results are brought into perspective, they seem somewhat meagre in relation to the substantial means employed. But perhaps it is actually the case that hitherto theory has by no means surveyed the multiplicity of possibilities and has only produced solutions for certain special cases. In this connection NIEHANS' considerations are a warning to exercise caution. The numerical values of parameters are often necessary for the purpose of ascertaining no more than the general tendency of changes. Nevertheless, this degree of indefiniteness seems to me exaggerated. The model yields considerably more if one does not ask too much of it, as NIEHANS does. In different cyclical phases, in different stages of development, under different structural and institutional set-ups, certain changes have different effects. By establishing for his parameter values ranges which embrace all of these possibilities, he has himself precluded definitive results. At bottom the question he asks himself is this: can it be shown that a certain change (e.g. a wage-increase) has *in all conceivable economic circumstances* a quite determinate effect on the most important economic magnitudes (e.g. prices, employment, distribution of incomes)? Understandably enough, the answer is, in most cases, no. Consequently the economic situation must be specified in greater detail; then unambiguous answers will be obtained.

But this special application has nothing to do with the basic idea of the system. Apart from the minor points of criticism made above, the whole line of approach can be described as fruitful and susceptible of further development. We need to get away from over-simplified assumptions, from limitation to a few variables, from neglect of nominal changes—to mention only the most important things. That this involves the sacrifice of perspicuity is unavoidable. That simple thought schemata are still needed as well, is quite another story. But, if simplicity is being abandoned, it is really hard to see why one should, through linearisation, forgo part of the advantages of the original line of approach. By doing so, one quite needlessly forfeits trade-cycle and growth theory. True, mathematical solution of the systems will then be a very difficult matter. But what are institutes of applied mathematics and electronic calculating machines for? Let them supply the solution. The economists' tasks are completed.

The second contribution to the book comes from BOMBACH ("Die verschiedenen Ansätze der Verteilungstheorie" – The various lines of approach in distribution theory, pp. 95–154). The writer passes in review the more recent theories of income distribution, groups them according to various principles, examines their presuppositions, criticises them and contributes a number of fruitful ideas about the distribution problem, not all of which belong to a theoretical system, however.

First of all, the most important *categories of income distribution* are set down, namely functional distribution according to economic categories (labour, capital rent and profit), according to social groups, according to taxation-law categories, according to economic sectors, and the personal distribution according to size of incomes. Then he groups the theories as follows: simple functional models, marginal-productivity models, and income models of the Keynesian type. The two last sections deal for the most part with a model of the writer's own, capable of determining short-run income distribution according to economic groups, after the manner of LEONTIEF's input-output analysis. In the appendix, figures for the economy of the Saar Territory are given for this model.

In this connection it is unnecessary to go into BOMBACH's treatment of recent distribution theories in detail. As was to have been expected from this writer, the exposition is clear, judicious and well arranged, and the theories are brought into relation with others to which they are akin. BOMBACH discusses inter alia a theory of distribution propounded by me at the Cologne session of the "Verein für Sozialpolitik". I accept most of his points of criticism. This is not the place in which to go into certain questions of detail on which we still differ. Instead, BOMBACH's original and positive contributions to distribution theory should be given their due in greater detail. They are to be found in different places of the paper and there is no close connection between them.

First there is a *functional distribution theory* along Keynesian lines (see BOMBACH, *loc. cit.* pp. 137–139); the theory is developed in detail in BOMBACH's article on price stability, economic growth and income distribution: "Preisstabilität, wirtschaftliches Wachstum und Einkommensverteilung", Schweiz. Zeitschrift f. Volksw. u. Stat. 95 (1959), pp. 1–20. In this model the price-level is explicit and the State puts in an appearance. To this extent it goes beyond the systems previously mentioned. On the other hand, BOMBACH divides national income Y not into wages and profits but into private incomes F, public incomes R, and undistributed profits U:

$$Y_t = F_t + R_t + U_t \tag{16}$$

Accordingly he cannot do more than determine the share of each of these types of income in total income. Thus his way of posing the question diverges from the ones pursued in other cases.

Investment is put down as a fraction i of national income, saving as a fraction s_F of private income F and as a fraction s_R of public income, while undistributed profits are treated as a whole. Equality of savings and investment gives:

$$s_F F_t + s_R R_t + U_t = i Y_t \tag{17}$$

The share of public revenue in the national income (represented by r) is regarded as being planned by the tax legislation. The planning is based on the revenue of the preceding period:

$$R_t = r\,Y_{t-1} \tag{18}$$

The same assumption is made for private budgets:

$$F_t = f \cdot Y_{t-1} \tag{19}$$

If (18) and (19) are substituted in (17), the resulting rate of growth of the nominal income works out as follows:

$$\frac{Y_t - Y_{t-1}}{Y_{t-1}} = \frac{f \cdot (1-s_F) + r \cdot (1-s_R)}{1-i} - 1 \tag{20}$$

From (19) and (20) the share of personal income in the national income appears as

$$\frac{F_t}{Y_t} = \frac{1-i}{(1-s_F) + \frac{r}{f}(1-s_R)} \tag{21}$$

It varies in inversely with the investment share i, positively with the savings coefficients s_F and s_R, inversely with the share of the public budget r in the total income, positively with the corresponding share f of the private budgets.

The shares of the other kinds of income can be calculated in the same manner.

BOMBACH's line of approach has many interesting aspects. True, the behaviour hypotheses (18) and (19) are extremely simplified. Moreover, in the original work the problem primarily posed is a different one: the answer resulting for distribution theory is rather in the nature of a by-product.

BOMBACH's second contribution to distribution theory deals with the *distribution of incomes according to economic sectors* (*loc. cit.* pp. 145–148 and pp. 150–154). Taking his stand on LEONTIEF's[11] input-output analysis and the matrix multipliers of GOODWIN[12] and CHIPMAN[13] he works out a system in which, indeed, only the total income in each economic sector is taken into consideration and the distinction between wages and profits is not made.

If n economic sectors are assumed, and y, x, i, e, t, d symbolise the column vectors of disposable income, gross production values, produced investment goods, export goods, receipts of transfer payments (net) and depreciation charges (each vector having n elements); if C, A, B and M stand for the quadratic matrices of deliveries of consumer goods, deliveries of intermediate products, receipts of intermediate products and imports (each with n lines and columns; in the two last matrices, only the elements of the main diagonals appear); if it is further assumed that the deliveries of consumer goods of one economic group to another are proportionate to the disposable income of the receiving economic group, and that the deliveries and receipts of intermediate products and the imports are

11. LEONTIEF, *The Structure of the American Economy, 1919–1939*, 2nd ed., New York 1951, and: *Studies in the Structure of the American Economy*, New York 1953.

12. GOODWIN, "The Multiplier as Matrix", *Ec. J.* 59 (1949), pp. 357–555.

13. CHIPMAN, "The Multi-Sector Multiplier", *Econometrica* 18 (1950), pp. 355–374.

proportionate to the gross production value of the receiving economic group, then one arrives at the following equation for disposable income from the standpoint of origin:

$$y = Cy + (A - B - M)x + i + e + t - d. \tag{22}$$

The gross production values x are the values of the produced consumer goods, intermediate products, investment goods and export goods. Thus, in accordance with the presuppositions with regard to proportionality,

$$x = Cy + Ax + i + e \tag{23}$$

or

$$x = (I - A)^{-1}\,[Cy + i + e]. \tag{23a}$$

Substituting in (22) and solving for y, one obtains the income of each economic sector (and, accordingly, the distribution of incomes) as a function of the structural matrices or of the vectors of investment and export demand (regarded as exogenous), as well as of the transfer payments and depreciation charges:

$$y = (I - \tilde{T}C)^{-1}\,[\tilde{T}(i + e) + t - d] \tag{24}$$

when

$$\tilde{T} = I + (A - B - M)\,(I - A)^{-1}$$

The matrix multiplier $(I - \tilde{T}C)^{-1}\,\tilde{T}$ reflects the influence of investment and exports, and the matrix multiplier $(I - \tilde{T}C)^{-1}$ the influence of transfer payments and depreciation charges, on income in the various economic sectors. BOMBACH (*loc. cit.* pp. 153 and 154) has established the values of the matrices and vectors for a three-sector model of the economy of the Saar Territory for the years 1953 and 1955; for the investment multiplier, for instance, surprisingly low values emerge, which rarely exceed 1.

This is undoubtedly a very promising line of approach. It enables a lot of sectors to be included, though only at the price of applying the simplest possible assumptions of proportionality and treating investments, transfer payments, exports and depreciation charges as exogenous. The whole elaborate machinery of linear algebra is available. But since, in the matter of calculations, the realm of perspicuity has already been left behind, it is really hard to see, as in the case of NIEHANS, why the next step was not immediately taken and more realistic assumptions introduced with regard to the consumption function, imports, investments, etc. True, this would make the mathematics more complicated, but one could turn all available economic knowledge to account. But that is a desideratum for later. For minor changes, i.e. for the short run, BOMBACH's approach seems definitely fruitful.

BOMBACH's third contribution (*loc. cit.* pp. 105–107) is concerned with the working-out of a simple relationship already familiar: *income distribution as a function of real wages and productivity of labour*. Here, according to which interpretation is put upon it, we have either a kind of productivity theory of distribution (the

productivity of labour being assumed to be exogenous) or a kind of theory of economic power (real wages being regarded as conditioned by degree of economic powers). BOMBACH inclines towards the latter construction.

His point of departure is a definition equation. Let a be the number of employed persons not self-employed and l the average wage-rate per period, so that $L = al$ the total of income from wages. Further, let y be real GNP and p the price-level, so that $Y = yp$, nominal GNP. Productivity of labour is defined as $\lambda_a = y/a$.

This gives the distribution

$$\frac{L}{Y} = \frac{al}{yp} = \frac{\frac{l}{p}}{\frac{y}{a}} = \frac{\frac{l}{p}}{\lambda_a}. \tag{25}$$

BOMBACH calls the wage-price relation real wages. Accordingly (25) can be expressed in this way: labour's share of GNP is proportionate to real wages and inversely proportionate to productivity of labour. If real wages rise along with productivity of labour, the distribution is unchanged; if real wages lag behind, then labour's share is impaired and vice versa.

Another form of (25):

$$\frac{L}{Y} = \frac{\frac{l}{\lambda_a}}{p} \tag{25a}$$

is regarded less favourably by BOMBACH. l/λ_a stands for the wage costs per unit of output, or unit labour cost. Accordingly, in form (25a) labour's share depends on the relation of unit labour cost to prices, which means that the distribution would be determined by price and production policy within individual firms rather than by trade-union wage policy. Both, surely, play their part; but such a simple relation will always tend to be interpreted onesidedly.

In this connection, however, BOMBACH immediately warns his readers, as on previous occasions[14], against attributing any special significance, from the standpoint of distribution policy, to constancy of the wage share and against expecting too much of the tying of wages to productivity of labour. A constancy of shares manifestly means something quite different according to whether the number of employed persons is becoming relatively larger (as is now the case in most countries) or relatively smaller. In the first case, the income per person employed declines in relation to the income of the selfemployed person, even if the wage share remains constant; in the second case, the opposite occurs. For the social system, however, it is the relative income of the individual that counts, not the income of any abstract categories. In the tying of wages to productivity

14. BOMBACH, "Quantitative und monetäre Aspekte des Wirtschaftswachstums" (Quantitative and Monetary aspects of Economic Growth), *Schriften des Vereins für Sozialpolitik*, New Series, Vol. 15 (1959), pp. 20 et seq., and "Preisstabilität, wirtschaftliches Wachstum und Einkommensverteilung" (Price Stability, Economic Growth and Distribution of Income). *Schweizerische Zeitschrift für Volkswirtschaft und Statistik* 95, (1959), pp. 16 et seq.

of labour the thorny statistical problem of measuring productivity immediately arises. Moreover, the state and development of labour productivity differ completely from one branch of the economy to another. Thus structural shifts between branches can have a greater effect on average productivity of labour than a change in labour productivity within individual branches.

In spite of these justifiable objections, the growth of the average productivity of labour, though a rough sort of gauge, nevertheless seems to me to afford a serviceable footing for a wage policy which aims at constancy of distribution. But it must, of course, be recognised that, by itself, it will not by any means suffice to ensure price stability.

To sum up, BOMBACH's study, with its multiplicity of standpoints and lines of approach, offers a clear survey of the present transitional phase in distribution theory. The old, simple lines of approach have become untrustworthy and out of date. We know too much about economic interpendence to make do with oversimplified premises which are to some extent simply erroneous. On the other hand, there is as yet no theory in which all the various factors determining distribution have been brought together in a single whole.

The third contribution to the book was supplied by OTT ("Produktionsfunktion, technischer Fortschritt und Wirtschaftswachstum"—Production function, technical progress and economic growth—pp. 155–202). The chief problem in which his observations centre is how models of growth should take technical progress into account. Here the writer takes the usual step in further developing the Harrod-Domar growth model by explicitly including a production function. In this connection, it is essentially a question of one or other of two types of production function—the LEONTIEF type or the COBB-DOUGLAS type, the choice depending on the kind of technology presupposed. OTT uses both types, as equally valid. He then spends a long time on the definition and classification of technical progress for both types of production function—a favourite theme with him—but finally reverts to introducing production functions into a simple growth model. Here he turns more especially against KALDOR's thesis that technical progress and substitution of production factors cannot be separated, and very definitely takes his stand in favour of SOLOW's separation procedure. In conclusion, he endeavours to prove that KALDOR's technical progress function is identical with SOLOW's production function.

This is, in bare outline, his train of thought. Owing to the multiplicity of ideas which he unfolds and to the difficulty of the subject matter, a detailed report on the contents of his paper is not within the scope of the present review. One must be content to single out a few points on which a commentary seems necessary.

OTT (*loc. cit.* pp. 157/58) speaks of three types of production function: LEONTIEF functions, the law of returns, and COBB-DOUGLAS functions. But the law of returns ought not to be conceived as a production function proper and, for instance, contrasted with the COBB-DOUGLAS function. In the usual acceptance of the term, the law of returns means the decrease in marginal return of a factor from a definite point on, the other factors remaining constant up to the saturation point. Thus the law of returns reflects a certain aspect of production functions. It can also

be said that certain production functions fulfil the law of returns. Among them is the COBB-DOUGLAS function. OTT, on the other hand, seems to understand by "law of returns" a production function which at first shows increasing returns; then, from a certain point, diminishing increases of returns and, from a further point onwards, diminishing returns. In contrast, he understands the COBB-DOUGLAS function to be a production function that has only diminishing increases of returns. Now the COBB-DOUGLAS function is only a special form of an infinite number of functions displaying this attribute. From that aspect it is not logically satisfactory to contrast it with the quite general law of returns. To my mind, it would be better to contrast classical production functions, to which the law of returns applies, with LEONTIEF production functions, to which it does not apply. The COBB-DOUGLAS production function can then be classified as a special case in the former category.

According to OTT, *technical progress* is present when total real productivity $P/Kq + Al$ rises (P = real product, K = quantity of capital, A = quantity of labour, q = interest rate, l = wage rate), q and l being necessarily kept constant. Instead of the normal three-way distinction of labour-saving, neutral and capital-saving technical progress—in which, it must be said, definitions differ considerably from author to author—OTT distinguishes seven types of technical progress by splitting up the labour-saving and capital-saving types each into three subdivisions. The chief criterion is the capital/labour ratio. If that is rising, we have a labour-saving type of technical progress; if it is falling, a capital-saving type; if it is constant, a neutral type. Given the identity formula

$$\frac{K}{A} = \frac{K}{P} \cdot \frac{P}{A},$$

a change in K/A can be accompanied by various changes in both K/P and P/A or in one of them; thus, in all, the seven categories mentioned above emerge. OTT then shows how these kinds of technical progress manifest themselves in LEONTIEF and in COBB-DOUGLAS production functions.

OTT's classification has the advantage of utilising magnitudes which are more or less measurable and of being utilisable equally well for LEONTIEF and for COBB-DOUGLAS production functions. But is the foundation sufficiently reliable? If the costs of the real unit of production rise while wage and interest rates remain unchanged, the result, according to this reasoning, ought to be a technical regression. But let us take, for instance, the case in which, with the same expenditure of labour and with increasing input of capital, the real product also goes up but production costs Kq and Al show a larger percentage increase:

$$\frac{q\,dK}{qK + lA} > \frac{dP}{P}, \text{ since } dA = 0.$$

Undoubtedly the commodity-price level will also rise; but that does not appear in OTT's definitions. Per worker, i.e. for practical purposes, per head of the population, the product has increased. The same number of persons are now producing

more than before. Thus at first sight one would be inclined to assume that there had been technical progress, and not a regression as OTT deduces. True, the distribution of incomes shifts to the disadvantage of the workers; but, in itself, even this is irrelevant for the question whether or not technical progress has occurred. Now, admittedly, not every increase in the productivity of labour is attributable to technical progress, but only those which are bound up with a change in the production function. If, now, in our example (the input of labour remaining constant)

$$q \frac{P}{qK+lA} dK > dP,$$

then according to OTT's criterion the new production function *must* follow a course below the old one in the customary graph; for a technical regression is bound to have occurred; on the other hand, with

$$q \frac{P}{qK+lA} dK < dP$$

its course will lie above the old one. Thus the empirically given interest rate q of the preceding period will decide whether we are confronted with technical progress or technical regression, i.e. what course the new production function will take. But the production function (as sum of the technically realisable production combinations in the present state of our knowledge) has nothing to do with the interest rate. So OTT's criterion for technical progress does not seem to hold good either. It can perhaps be salvaged for a COBB-DOUGLAS production function under the very limiting conditions in which the marginal-productivity theory links the wage rate with the marginal productivity of labour, and the interest rate with the marginal productivity of capital. But the universal validity of the theory then goes by the board. I should prefer a definition of technical progress that leaves prices and wage rates out of account and takes its stand only on technical magnitudes, especially on the quantity of labour and of end products.

If one sets out to measure technical progress by its economic effects, what counts is, at bottom, only the ratio of the working-power extended to the quantity of end products produced. All raw materials, semi-manufactures, machines, tools, factory buildings, etc., are intermediate products, "Produktionsumwege" (to employ this ordinarily not very precise expression of BÖHM-BAWERK); the quantity of labour utilised for the manufacture of these intermediate products serves indirectly to produce goods for consumption or investment. The technical progress lies in the fact that the same quantity of end products is produced with less labour, or a greater quantity with the same labour; the intensity of labour or capital in the production is not, in itself, a point of interest in establishing technical progress; it is a question apart. Moreover, a definition of technical progress in these terms has the advantage of enabling one to skirt round the theoretically and statistically awkward problem of measuring the "quantity of capital" in the national economy. Instead, the concept of utilisation of capacity is the instrument employed. This is easier to define and ascertain. Besides, if production and the average capital

coefficient remain constant, the utilisation of capacity is inversely proportionate to the quantity of capital[15].

"Technical progress", as defined above, embraces not only improvements in production technique in the narrow sense of the word, but all changes of a technical, organisational, sociological, psychological or other character which increase the net productivity of labour. It is just that which is important for production, price and distribution theory. Along these lines—to take, for example, the simplest case, in which production and utilisation of capacity in two periods are the same, while the quantity of labour differs—technical progress τ is to be understood simply as relative saving of labour:

$$\tau = \frac{A_0 - A_1}{A_0}$$

If the quantity of production and the quantities of labour A are different but the degrees of utilisation of capacity remain the same, one would get

$$\tau = \frac{A_0 \cdot \frac{y_1}{y_0} - A_1}{A_0 \cdot \frac{y_1}{y_0}}$$

etc. in more complicated cases. If the appropriate form is given to the concept "utilisation of capacity", these definitions will suit all kinds of production functions, will obviate reference to monetary magnitudes and will permit measurements that are probably more exact than those proposed elsewhere in the literature on this subject. And, so far as I can see, the main part of OTT's reflexions would not be affected by these modifications.

To come, now, to the question of the separation of technical progress and substitution. If COBB-DOUGLAS production functions and neutral technical progress are understood as conceived by HICKS, OTT and others (that means, in this case, if the exponents of capital and labour are really constant), the two phenomena may be separated. SOLOW has demonstrated this, and OTT repeats the demonstration in another way. The question is merely whether both conditions may be presupposed. That is a difficult problem which cannot be decided by theoretical reflexions but only by empirical econometric tests. It would be agreeable if, by a suitable redrafting of theoretical bases, the need for this separation were removed. In this respect KALDOR's reflexions have a very sound core. His "technical progress function" is, however, so vaguely defined that it can lead to anything or nothing. This makes it, inter alia, possible for OTT to identify the function with SOLOW's dynamic COBB-DOUGLAS function, although KALDOR can scarcely have had that in mind. Since KALDOR leaves much open, he gives interpretation possibilities ample room. A "proof" of indentity, which OTT has in view, is not possible under these conditions; but it *is* possible to show that the two conceptions are not necessarily contradictory. This, I think, OTT has succeded in doing.

15. According to the usual definition, $\bar{k} = k/x^*$ when $\bar{k}$ is the average capital coefficient, x^* is capacity, and k is the quantity of capital. The utilisation of capacity is defined by $\delta = x/x^*$. Thus $\delta = x\bar{k}/k$.

I hope I have given the reader some idea of the multiplicity of stimulating suggestions to be got from the work under review. This book provides welcome evidence that, along a broad front, on the European continent economic theory has reached an excellent international level too, and that perhaps (and this is to be hoped) it is once more on the way to generating impulses in its turn, instead of always being merely at the receiving end.

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AU DELA DE L'OFFRE ET DE LA DEMANDE

(Quelques remarques à propos d'un livre de Wilhelm Röpke)

Sauf les résonances de son titre, et la force percutante de son témoignage, le livre de WILHELM RÖPKE[1] que nous allons commenter n'a rien de nietzschéen. Il aurait aussi bien pu – à l'imitation de Bernanos, qu'il cite à l'occasion – s'appeler « L'Europe contre les robots ». Avec vigueur, avec rigueur, implacablement, il dénonce le socialisme, et le complexe d'idéologies qui lui sont apparentées, pour être les grands responsables de la barbarie montante du XX^e^ siècle, et de la déshumanisation de l'homme contemporain. Il s'inscrit en faux contre une caricaturale subversion des valeurs qui nous propose le bien-être et l'aisance au prix de la liberté, l'égalité au prix de la responsabilité et de la dignité personnelles, l'organisation rationalisatrice et centralisatrice au prix d'un viol de la nature et de notre propre nature, un progrès purement quantitatif au prix du bonheur et de la paix, un culte prométhéen des œuvres collectives des hommes à la place de Dieu. Il balaye d'une main ferme les clinquantes idoles et les complaisantes illusions d'un temps ridiculement enivré de lui-même. Il nous montre à nu la misère de la vie proprement infernale qu'il fait à un nombre d'hommes toujours croissant; le vide désolant de la « civilisation » du frigidaire, de la télévision, de l'appartement à bon marché, de l'assurance sociale, de l'autobus suburbain, du bruit permanent, discordant, et épuisant, de l'universel déracinement, du travail impersonnel et assommant, des lugubres loisirs organisés. Contre la réclame qui souille les paysages et conditionne les âmes, contre la bureaucratie qui empile les papiers, engloutit le temps des hommes et tue en eux l'initiative, contre les rythmes démentiels de l'existence qui épuisent l'intelligence et dévorent la vie personnelle, contre la fausse culture technicienne et journalistique, qui méprise les sources classiques, l'histoire, les traditions, la réflexion, il n'hésite pas à reprendre des thèmes déjà souvent resassés. Mais justement il sait leur restituer un relief, une force, une note de vérité tragique qu'ils avaient perdus à l'usage. Il y a dans ce livre un souffle de vérité,

1. WILHELM RÖPKE, « Jenseits von Angebot und Nachfrage ». Zürich 1958. Rentsch Verlag. 368 p.

une puissance de refus qui réveilleront les plus blasés. Pour concevoir une telle œuvre, sans doute fallait-il beaucoup d'élévation d'âme, une culture intellectuelle riche et profonde, un fervent amour de l'homme. Pour l'écrire et le publier, un beau dédain du respect humain, une magnifique indépendance, un splendide courage. Et pour le réussir – en dépit de ce que beaucoup de ses thèmes peuvent avoir d'usé, et d'irritant – un très rare talent. Par l'ampleur de ses perspectives, par la rigueur de sa dialectique, par le souffle pathétique qui d'un bout à l'autre le traverse, il se détachera dans l'œuvre déjà si riche, si diverse – en même temps que si cohérente par son inspiration – de WILHELM RÖPKE. C'est un livre qui s'impose à l'attention. Il oblige le lecteur à s'arrêter. Certains le liront avec soulagement, avec enthousiasme, avec un violent sentiment de libération. D'autres avec effroi, devant les sombres perspectives qu'il découvre. D'autres avec colère, avec haine, avec mépris. Mais il ne peut laisser personne indifférent. Nul au sortir de ce livre ne se retrouvera tout à fait le même qu'il était auparavant. Nul jamais ne pourra l'oublier.

Le socialisme, auquel ici s'attaque WILHELM RÖPKE, n'est à ses yeux qu'une expression – et l'un des facteurs – d'un phénomène beaucoup plus général, qui pour lui résume le mal de notre temps, et qu'il appelle d'un mot malaisément traduisible en français, la *Vermassung:* la massification, la perte de l'homme dans la masse, la dégradante dissolution de l'homme personnel dans la masse humaine. Le Bon déjà avait montré combien aisément l'homme en foule devient enfantin, déraisonnable, impulsif, méchant et lâche. La foule cependant n'est que la forme aigüe, et épisodique, de la *Vermassung*. Et la foule n'est pas un phénomène nouveau. Ce qui est nouveau, propre à notre temps, c'est la forme chronique de la massification. Elle dégrade l'homme durablement, et en quelque sorte organiquement. Sans même s'en apercevoir l'homme s'abîme dans la masse et s'y dissout. La *Vermassung* signifie pour l'homme la séparation d'avec la nature et l'aliénation de sa propre nature. La *Vermassung* est déshumanisation. WILHELM RÖPKE en met à nu les divers processus. Il dénonce avec vigueur tous ceux-là qui – naïvement ou diaboliquement – font gloire à notre siècle de ce qui fait sa honte: les thuriféraires de la démocratie de masse, de la civilisation des masses, de la mentalité molaire.

Qui donc l'emportera, de la civilisation, ou de la «massification» qui la menace? Tel est selon WILHELM RÖPKE, l'enjeu de la tranche d'histoire que nous sommes en train de vivre. Or il existe un lien nécessaire entre cette cruciale question et celle du régime économique. La sauvegarde des valeurs humaines implique la restauration de l'économie de marché. Toute politique économique socialiste au contraire engendre et accentue la massification. C'est ici qu'en WILHELM RÖPKE l'économiste libéral s'articule au philosophe humaniste.

L'économie de marché, ce n'est en soi qu'une technique d'organisation économique qui repose sur l'entreprise privée, la concurrence, et le mécanisme des prix. Mais comme telle, elle ne se suffit pas à elle-même. Le fonctionnement de l'économie de marché n'est concevable que dans le cadre de tout un contexte d'institutions juridiques (propriété, liberté des contrats), de traditions et de mœurs (code chevaleresque de concurrence, règles d'honneur professionnel, épargne familiale etc...) et d'idées morales (sens de la responsabilité personnelle, respect des traditions, assomption de risques par l'individu). En somme – WILHELM RÖPKE n'hésite pas à lâcher le mot – l'économie de marché est liée aux structures « bourgeoises » et aux vertus «bourgeoises». D'une part elle les suppose, et d'autre part elle seule permet leur épanouissement. Il ne peut y avoir d'économie de marché que dans le cadre d'une civilisation (bourgeoise). Il ne peut y avoir de civilisation (bourgeoise) que moyennant une économie libre, fondée sur le marché.

Tel est le meilleur titre que puisse invoquer le système de l'économie de marché, pour que nous le préférions au socialisme. Lui seul permet la sauvegarde des valeurs essentielles de la civilisation, et l'épanouissement de la personne humaine. Fût-il moins efficient que le planisme, pour cette seule raison nous ne le lui en devrions pas moins préférer. Mais en fait c'est notre chance que le système économique du marché, seul compatible avec la civilisation, se trouve être en même temps techniquement le plus efficient. N'oublions jamais toutefois que l'économie de marché se recommande d'abord par le contexte de civilisation dont elle n'est point séparable. L'homme ne vit pas seulement de pain. *Anima plus est quam esca.*

Or ce contexte juridique, social, moral, spirituel qu'elle suppose et qui la suppose, l'économie de marché ne suffit nullement à le pro-

duire. WILHELM RÖPKE ici s'élève contre l'«immanentisme» de beaucoup de libéraux. Aussi bien n'est-il point à ses yeux concevable que le marché fonctionne de façon satisfaisante, à moins que par ailleurs et par avance son nécessaire contexte de civilisation se trouve réalisé. Tout ce qui déconsidère les vertus bourgeoises, tout ce qui dissout les structures bourgeoises, tout ce qui dégrade les mœurs bourgeoises compromet les possibilités d'un sain fonctionnement du marché.

La loi de l'intérêt personnel doit au demeurant souffrir d'être soumise à certaines limites. Il n'est pas rare que des comportements économiquement rentables puissent être socialement fâcheux. La réclame voyante et dégradante, le crédit à la consommation qui démoralise l'acheteur en le sollicitant de dépenser son revenu avant de l'avoir gagné, le commerce avec les pays communistes doivent être contenus dans des limites étroites, voire prohibés.

Les vertus bourgeoises sans doute sont des vertus modestes, et même si l'on veut médiocres. Elles valent par la constance qu'elles exigent de l'homme, plus que par leur éclat, ou par l'élévation de leur inspiration spirituelle. Elles disciplinent la vie humaine, elles la dignifient et sanifient, elles lui font un climat favorable pour l'éclosion et pour la culture d'autres vertus plus hautes et plus héroïques. Elles seules composent à l'homme ce climat d'ordre et de paix sans quoi la société comme la personnalité ne pourraient que se dissoudre. N'allons donc pas, sous prétexte d'une morale plus élevée, les mépriser, ni les sacrifier: tout le reste aussi bien s'effondrerait avec elles. La liberté est indivisible: l'on ne supprime pas le marché libre sans compromettre la dignité humaine. Le dirigisme traîne avec lui la décadence de la propriété, l'instabilité monétaire, le déclin de l'épargne familiale, la tyrannie omniprésente des technocrates, la bureaucratie, l'«économocratie», l'Etat policier. Il tend à l'universelle prolétarisation. Il exclut le type de l'homme libre.

Aussi bien le libéralisme de WILHELM RÖPKE exclut-il pour sa part l'utilitarisme, le rationalisme, le mécanicisme, l'économisme, le productivisme, et la faveur pour la concentration que professent beaucoup de libéraux. Il invoque MONTESQUIEU et SISMONDI, plus volontiers que RICARDO, et que bien entendu SCHUMPETER. Le libéralisme économique, c'est pour RÖPKE, d'abord un humanisme, et une doctrine de civilisation.

L'économie de marché d'une part, et d'autre part la civilisation humaniste font ensemble face aux deux mêmes grands ennemis: le *Welfare State (Wohlfahrtsstaat)*, et l'inflation. Il existe entre l'un et l'autre un lien très étroit. Le *Wohlfahrtsstaat* en généralisant la sécurité sociale décourage l'épargne privée. Sous prétexte de plein emploi il tend à réaliser le suremploi. Tout cela est inflationniste. L'inflation à son tour détruit les fortunes privées, fait fondre les épargnes des particuliers: elle les rend incapables de supporter par leurs propres moyens les risques de l'existence: elle appelle l'Etat-providence: le Wohlfahrtsstaat.

Sans doute – WILHELM RÖPKE ne songe pas à le contester – est-il du devoir de l'Etat de suppléer, lorsqu'elles sont défaillantes, la prévoyance individuelle et la charité privée, pour subvenir aux besoins essentiels des indigents. Peut-être l'Etat bourgeois au XIX^e^ siècle a-t-il manqué à ce devoir-là. Mais le *Welfare State* beveridgien est tout autre chose. Il survient anachroniquement à une époque où justement le relèvement général du niveau de vie permettrait que l'entraide privée subvienne presque à toutes les misères. Il est au reste tout autre chose qu'une institution d'assistance publique subsidiaire. La contemporaine sécurité sociale n'est pas réservée aux indigents: elle est obligatoire pour tous. Le *Welfare State* est un appareil de révolution sociale: par la substitution de la répartition à la capitalisation pour la couverture des risques; et par la redistribution autoritaire et égalitaire de tous les revenus. L'Etat s'empare d'une part croissante des gains des individus, il prend à sa charge une partie sans cesse croissante de leur consommation. Il assume les frais de leurs maladies, de leur retraite, et largement ceux de leur logement, de l'éducation de leurs enfants, etc... Si bien que le citoyen du *Welfare State* finit par ressembler à un adolescent que ses parents hébergent et nourrissent, et dont ils encaissent les gains, ne lui laissant qu'un peu d'argent de poche. On le traite en mineur et cela le minore. Il cesse alors de prévoir, d'organiser sa propre vie. Il ne se considère plus comme responsable de lui-même. Et il cesse d'épargner.

L'insuffisance de l'épargne aussi bien conduit à l'inflation. La condamnation que WILHELM RÖPKE porte contre l'inflation est absolue. Que la monnaie soit dépolitisée, que la valeur de la monnaie soit maintenue constante, ce sont là pour lui des conditions essentielles de ce climat de loyauté, de sécurité, de stabilité qui conditionne à son

tour le fonctionnement correct de l'économie de marché, et la civilisation. L'inflation constitue à ses yeux le mal chronique et universel des sociétés contemporaines. Elle résulte essentiellement de l'insuffisance de l'épargne, du suremploi, de l'excessive puissance que confère aux syndicats ouvriers leur structure de plus en plus concentrée, et les idéologies ouvriéristes régnantes. Sans doute la déflation n'est-elle pas non plus recommandable, mais jamais nulle part de nos jours on ne voit que ce soit la déflation qui menace, au lieu que la menace inflationniste est constante et pressante. C'est que l'inflation, parce qu'elle procure une euphorie passagère au détriment des bases du régime, et sacrifie au présent l'avenir (alors que la déflation fait exactement le contraire) représente seule une tentation sérieuse. Pour y résister efficacement, les banques centrales doivent veiller à se garder jalousement indépendantes des gouvernements, et recourir de façon constante à de draconiennes restrictions de crédit. Toute faiblesse envers l'inflationnisme constitue pour WILHELM RÖPKE une trahison. L'instabilité de la monnaie porte atteinte au droit de propriété, à la vérité des contrats, à ce minimum de coïncidence du droit positif avec l'équité qui fondent la civilisation. Elle porte atteinte à la continuité de la société, et qu'est-ce donc qu'une société, sinon une tradition, des cadres, des conventions, des consolidés culturels qui se prolongent et relient entre elles les générations successives? L'inflation toujours est une solution démagogique, une solution de facilité, de laisser aller: une suprême indécence.

De leur façon de réagir en face de l'inflation, WILHELM RÖPKE fera le test crucial qui va permettre de séparer l'une de l'autre deux races d'esprits: la sienne, et celle dont décidément il n'est pas. La race dont il n'est pas, c'est celle des «progressistes», tandis que la race dont il est pourrait s'appeler celle des conservateurs. Mais WILHELM RÖPKE hésite à assumer cette étiquette de «conservateur»: il voit bien qu'en Europe elle s'est chargée de résonances insoutenables. Alors il parlera de «centrisme» et de «décentrisme». C'est ici, dit-il, que les esprits se séparent. *Hier scheiden sich die Geister*. Le «centriste» est un rationaliste social, un expansionniste optimiste, un doctrinaire, un moraliste réformateur qui, au nom d'idéologies morales utopistes, dissoudra la morale traditionnelle au grand dam de la moralité des hommes. Le décentriste aura les attitudes inverses. Et cela fournit à WILHELM RÖPKE l'occasion d'une vaste fresque intellectuelle: où l'on

illustre le combat manichéen des fils de la Lumière (décentristes, libéraux, conservateurs) contre les fils des Ténèbres (centristes, socialistes, progressistes).

Mais c'est ici qu'à mon sens aussi bien, dans sa juste réaction contre la « révolution sociale », WILHELM RÖPKE se montre lui-même quelque peu systématique, et dogmatique. La superbe condamnation qu'il porte sur notre temps sans doute est courageuse. Mais ici peut-être, entraîné par son courage, RÖPKE condamne-t-il sans tout le discernement nécessaire. Dirai-je en particulier qu'il me paraît ingrat pour la Révolution française? Il est bien vrai qu'elle a ébranlé beaucoup de vraies valeurs séculaires, et que l'on peut sans trop d'artifice faire remonter jusqu'à elle beaucoup des maladies idéologiques, et plusieurs aspects de la décomposition sociale de notre temps. Tout de même la Révolution française, pour nous français – et dans une large mesure pour nous tous, européens –, s'est intégrée à notre tradition. C'est à travers elle seulement que nous demeurons reliés à ce qui l'a précédée, à cela même qu'elle a détruit. Elle a pour nous valeur de tradition; n'est-ce pas WILHELM RÖPKE lui-même qui justement vient de nous montrer combien toute tradition porte en soi de valeur? C'en est une très riche que celle de la Révolution française. Elle ne mérite à mon sens ni que l'on porte sur elle une condamnation générale, ni même ce parti pris hostile dont semble envers elle animé WILHELM RÖPKE.

Par exemple, je le trouve bien sévère pour les physiocrates, et l'autorité de TOCQUEVILLE, qu'il invoque ici (p. 209), ne me paraît rien enlever à l'injustice du jugement qu'il porte sur eux. Il nous montre en eux « le type originel des modernes économocrates ». Rien ne me paraît plus contestable. En dépit de l'enthousiasme que leur inspirait le « Tableau » macroéconomique de QUESNAY, en dépit de leur théorie du despote éclairé, les physiocrates n'étaient rien moins que des rationalistes sociaux, au sens où les condamne justement WILHELM RÖPKE. Leur amour de la terre, leur sens de la nature, la profonde conscience et le respect qu'ils avaient de la pérennité de la nature *humaine*, leur sens de Dieu, leur vénération pour le droit (on a pu définir l'œuvre de QUESNAY: *magnum carmen legis*), leur auraient dû valoir de sa part plus d'indulgence, et même de la sympathie. RÖPKE me semble au fond infiniment plus proche d'eux qu'il ne l'est des classiques anglais, utilitaristes et mécanistes.

Je ne puis non plus adhérer à la condamnation radicale que porte WILHELM RÖPKE contre la doctrine jacobine. Que par les obscurs détours que l'on voit fréquemment aux filiations idéologiques, le jacobinisme ait pu conduire des esprits vers le socialisme, cela est possible. Mais les jacobins eux-mêmes n'étaient rien moins que collectivistes. C'étaient des libéraux humanistes, que surtout les circonstances historiques – et l'impératif de la défense de la «Patrie en danger» – ont conduits à l'autoritarisme, à des excès tyranniques et à des outrances doctrinales. Ils avaient certes une conception centraliste de l'Etat. Mais l'Etat dans leur pensée n'était là que pour protéger, par des lois, la liberté individuelle. L'Etat jacobin n'est rien moins que l'Etat Moloch. Les jacobins étaient pour la centralisation du pouvoir politique, non pour la politisation de la vie sociale tout entière. L'idée, qui les possédait d'une séparation tranchée entre la politique et la vie privée, l'idée de la transcendance de l'Etat par rapport aux groupes, l'idée de la souveraineté de la loi à laquelle ils entendaient que l'individu fût directement soumis sans l'entremise de «corps intermédiaires», tout cela me paraît authentiquement libéral. SAINT-JUST n'est rien moins, pour les libéraux, qu'un maître à renier. Dans mes veines coule un sang qu'a fait répandre ROBESPIERRE: celui d'un de ces vingt et un girondins qui montèrent à la guillotine, le 31 octobre 1793, en chantant la Marseillaise. Mon esprit n'en penche pas moins plutôt du côté des bourreaux de mon ancêtre; c'est à dire du côté des jacobins. Je ne puis accepter les formes girondines du «décentrisme». N'être pas socialiste n'implique pas que l'on tombe dans le féodalisme, dans l'organicisme. Entre les deux il y a l'individualisme, auquel je me rattache et dont les jacobins étaient inspirés. Le pouvoir politique doit être limité, sans doute, quant à sa sphère d'exercice. Mais lui-même doit être centralisé. Cela me semble conforme à sa nature. Qu'est-ce donc qu'un pouvoir qui n'est pas concentré? Décider est le fait d'un seul.

C'est dire que je ne puis suivre RÖPKE dans son fédéralisme. Non que je ne respecte autant que lui la tradition politique et le régime des Suisses. Mais l'expérience helvétique me paraît particulière, et peu susceptible de généralisation. Il ne faut pas oublier ce que les «corps intermédiaires» d'avant la Révolution française pouvaient avoir d'oppresseur. Après RICHELIEU et l'absolutisme monarchique, c'est l'Etat jacobin qui nous en a libérés. Je ne suis pas hostile aux

«communautés», certes. Mais à condition qu'elles demeurent dans la sphère privée, et ne prétendent point à des prérogatives de droit public. Le libéralisme se fonde sur ce que F. HAYEK appelle «*the rule of law*». Il me paraît conforme à l'ordre libéral que la loi soit souveraine, et qu'à l'Etat revienne le monopole de l'édicter.

Non moins véhémentement que celle du pouvoir politique, WILHELM RÖPKE dénonce la concentration industrielle. Certes il a raison de mettre en lumière ses aspects souvent déshumanisants. Seulement peut-on revenir à l'artisanat, au beau rêve toscan de SISMONDI? Pour une large part, les grandes affaires répondent à d'inéluctables nécessités techniques. Il est bien vrai qu'elles font souvent aux hommes une vie spirituellement diminuée. Mais regretter le moyen âge n'y changera rien. Et vouloir le restaurer serait bien peu réaliste. En dépit des ombres qu'elle projette, il ne faut pas au reste méconnaître l'authentique grandeur humaine des grands capitaines d'industrie, des grandes capitales, des grands pôles de développement industriel. Plutôt que de prophétiser contre les modernes Babylones, sans doute doit-on chercher comment – dans le cadre nouveau qu'elles font à la plus grande partie des habitants des pays développés – se peut refaire une vie sociale vraiment civilisée. Pour quiconque – avec WILHELM RÖPKE – rejette l'«immanentisme» – qui fait entièrement dépendre la civilisation des structures économiques – peut-être malgré tout n'est-ce pas *a priori* impossible. WILHELM RÖPKE s'avance au reste lui-même dans cette direction. Seulement, quand c'est pour se dire presque favorable à la participation ouvrière à la gestion des grandes affaires (le *Mitbestimmungsrecht*), une fois de plus je me sens incapable de le suivre: le *Mitbestimmungsrecht* me semble en effet complètement fausser la règle du jeu de l'économie libérale.

Point davantage ne souscrirai-je aux jugements sévères que l'auteur porte sur la CECA, et sur les institutions supranationales de l'Europe des Six. Elles font à ses yeux surgir le spectre horrible d'une monstrueuse «économocratie» européenne continentale. Je crois au contraire que l'effet de ces institutions ne peut dans l'ensemble être que favorable au libéralisme. Déjà mon pays ne leur doit-il pas un salutaire retournement de sa politique monétaire, et de son idéologie économique dominante? Sans la pression du marché commun européen, imagine-t-on que la France aurait purgé son inflation chronique, et largement ouvert ses frontières, comme depuis près de

deux ans elle le fait pratiquement avec continuité? J'ai bien des fois entendu M. JEAN MONNET (économocrate?) louer les vertus de la concurrence. Et puis surtout, je ne vois pas comment serait possible une restauration politique et morale des nations européennes, autrement que par l'institution d'une autorité politique supranationale, qui n'est elle-même concevable que dans le cadre des Six.

Serais-je pour autant «centriste», ou «progressiste»? A Dieu ne plaise, vraiment. J'accepte beaucoup de la philosophie fondamentale de ce livre. Je dénonce avec lui l'inflation, le sécuritarisme, l'idéologie égalitaire, le modernisme, le technicisme, l'immanentisme social, le dédain des traditions, le viol de la nature; et la dégradation de la science économique par le mathématisme et l'engouement pour la comptabilité nationale.

Ce livre est un livre intègre, et c'est un livre fort. Il sonne le tocsin: contre le suicide où dans l'euphorie se précipite l'espèce humaine. Ce livre est un refus de la barbarie, un refus de la croire fatale, un refus de s'y laisser entraîner, un refus de s'associer aux hommages qu'inconsidérément tout le monde lui prodigue et qu'elle ne mérite pas. Je lui suis pour ma part reconnaissant de m'avoir imposé un salutaire examen de conscience, sur les faiblesses et les compromissions dont j'ai pu me rendre coupable, vis à vis de la foi libérale qu'avec lui je partage. Comme je voudrais le donner à lire à tel et tel auxquels je pense, et qu'il saurait peut-être faire réfléchir, mais qui probablement se hâteront de le mettre de côté, avec dédain. Dis-moi qui te dédaigne et je te dirai qui tu es. J'aime ce livre pour tous les ricanements qu'il va provoquer: chez ceux que Bernanos appelait: «les imbéciles».

Paris (France) DANIEL VILLEY

BESPRECHUNGEN
COMPTES RENDUS – REVIEWS

ROBERT LORING ALLEN. *Communist Economic Warfare.* Washington 1960. Public Affairs Press. 250 pp. and tables. $ 5.–

There is increasing interest, and rightly so, in the economic aspects of the struggle between the West and the Soviet bloc, and this book represents a thorough attempt to understand the nature of Soviet policies. It contains many sensible observations, many useful facts. Yet, for the reviewer at least, the book suffers from several serious defects.

The first of these is common to a whole school of American analysts of Soviet policies: they take the "standard" American interpretation of Soviet motives for granted; their society is assumed to be wholly evil, wholly devoted to the downfall of the West, hardly if at all affected by the West's own behaviour. These things are only occasionally stated explicitly—as when "an unvarnished lust for power" is stated to be the "unique characteristic" of Soviet "materialistic" philosophy (p. 4)—but it is implicit throughout, and causes the author to make value judgments which sound naïve to anyone less completely immersed in waging the cold war. What, for example, is one to make of a statement like this: "mutual advantages between the Soviet Union and a trading partner seldom result from any premeditated intention on the part of the Soviet Union" (p. 4). I have seldom seen American or British businessmen "premeditate" the advantage of those with whom they strike a business bargain, nor is that any reason why they should. Mutual advantage is generally assumed to underlie all trade deals which are voluntarily negotiated. The tendency to adopt the worst interpretation of anything the Soviets do, while assuming beyond question the purity of American motives and actions, becomes a little hard to bear after 200 pages or so. As a regular reader of Soviet books on Western policy, the reviewer is all too familiar with the division of the world into the righteous and the wicked, but this is a matter in which it is of some advantage to the West not to enter into direct competition with the Russians.

Some detailed judgments, too, seem clouded by an obstinate desire to prove how trading with the USSR must be unprofitable. Thus on p. 235 he advances the following argument: the USSR claims to buy and sell at world prices, but, if Soviet offers had been known before world prices were determined, then these prices would have been more favourable to those who buy from and sell to the USSR, and therefore the country which trades with the USSR at "world market prices" is at a disadvantage. This is quite remarkably unrealistic. It is surely obvious that Soviet purchases or sales, where they are quantitively significant, do affect world market prices. One has only to mention rubber and timber as examples. Indeed only

three pages later the author himself refers to the effect on world prices of Soviet offers of tin. He really cannot have it all ways at once; the USSR cannot be simultaneously accused of over-charging and dumping. Elsewhere in the text, the undoubted fact that the USSR has derived political advantages from trade is overstressed with some alarming disregard for realities: one instance is the assertion (p. 40) that Finland has so succumbed to economic pressure that it "has a military alliance with the Soviet Union and its military establishment is developed for possible use against Norway".

Professor ALLEN endeavours to assess the balance between economic and political motivation; in my view this is not adequately analysed in the book. Thus it is seriously argued (p. 50) that "Soviet trade policy calls for weakening economic ties with the outside world", this being contrasted with the foreign-policy need for "wider economic relations". This is a very odd way indeed of discussing the complex questions involved. If trade is economically advantageous to the USSR, as the author himself elsewhere recognises, then it is surely wrong to stress political considerations to explain why more trade takes place (though naturally these affect many particular trade deals). In any case, the economic strengthening of the USSR is itself a major political aim of Soviet policy, and therefore decisions on trade may be usefully seen not as a choice between the purely political and purely economic, but at least partly a choice between strategic and tactical, long-term and short-term, economic *and* political considerations. If a given trade-and-aid deal can be undertaken only at the cost of damage to some internal economic project, it is by no means obvious that priority will be given to the former.

While the author is quite correct in stressing the illogical nature of the relationship between internal Soviet prices and foreign trade prices, his detailed treatment of the problem has some peculiar features. On p. 234 it is claimed that the Soviet Union imports Cuban sugar at 34 times the official exchange rate in terms of domestic prices. Put more simply, the sugar valued at the official rate is alleged to be resold at thirty-four times its purchase price to the Soviet users. But such a result can only be obtained by contrasting the purchase price in Cuba with the retail price of sugar in Soviet shops, including tax, hardly a very relevant basis. Similarly, Soviet exports of crude oil are not made at "5.5 times the official (exchange) rate", unless such a comparison relates not to costs but to the domestic selling price, again including a large element of turnover tax. In neither case can the actual disparity between the nominal and the "real" rate be measured in this way.

The book has virtues, but, all in all, these seem to me to be outweighed by its defects.

London School of Economics, London (England) A. NOVE

ROLF BERTH. *Marktforschung zwischen Zahl und Psyche.* Beiträge zur Erforschung der wirtschaftlichen Entwicklung. Herausgegeben von Prof. Dr. M. E. Kamp, Heft 3. Stuttgart 1959. Gustav Fischer Verlag.

Diesem aus einer Dissertation hervorgegangenen Buch liegt das Bemühen zugrunde, den «scheinbaren Antagonismus zwischen Zahl und Psyche» in der Marktforschung zu überwinden, indem die quantitativ-statistisch orientierte Analyse und die auf der Anwendung tiefenpsychologischer Methoden beruhende Motivuntersuchung zu einer Einheit integriert werden, die der Autor als «Funktionsforschung» bezeichnet und die auf dem Grundschema folgender Erkenntnis beruht: «Die Persönlichkeit setzt sich mit einem Objekt auseinander, indem sie aus dem objektiv gegebenen Reiz auf Grund ihrer eigenen Struktur ein Bild formt, das gleichsam ein subjektiver Kompromiss zwischen Objekt und Persönlichkeit ist.» Mit anderen Worten: Jedes Konsumverhalten, jeder einzelne Einkaufsakt basiert auf dem Dreiecksverhältnis zwischen dem objektiven Konsumgegenstand, dem «Image» als Summe aller Vorstellungen des Subjekts von diesem Gegenstand, und der dauerhaften Struktur seiner gegebenen Persönlichkeit.

Dem Verfasser liegt besonders daran, darzutun, wie unvollständig, beinahe stümperhaft, «naiv» Marktforschung ist, die sich auf die Untersuchung quantitativer Verteilungen – zum Beispiel wieviel Prozent der Angehörigen einer bestimmten Kaufkraftschicht ein bestimmtes Produkt bevorzugen – beschränkt und nicht nach den letzten, gestaltpsychologisch zu ermittelnden Motivationen solcher Verteilung im Rahmen einer Ganzheitsschau der Persönlichkeit forscht. In zum Teil recht streitbarer Weise macht er den deutschen Marktforschungsinstituten, wenigstens einem Teil davon, den Vorwurf, dass sie die entscheidende Bedeutung dieser neuen Verfahren noch nicht erkannt hätten und stur-konservativ in der Einseitigkeit des «Nasenzählens» verharrten.

Es darf BERTH attestiert werden, dass er uns in diesem Werke eine ebenso lebendige wie auch schöpferische Darstellung der Anwendung tiefen-psychologischer Forschung auf dem Gebiet der Markterkundung bietet. Besonderes Interesse verdienen seine Darlegungen über das «Image» als Ausdruck der Produktvorstellung des Konsumenten. Was der Leser vermissen mag, ist eine Erörterung der Art und Weise, wie diese qualitative Forschung mit der quantitativen verknüpft wird und wie sie praktisch eingesetzt wird. Die Publikation enthält zwar freilich zwei Beispiele aus der Praxis der Motivforschung, aber ohne Verbindung mit repräsentativen Stichprobenerhebungen.

Auf der anderen Seite ist zu sagen, dass BERTH zum Teil offene Türen einrennt, indem er den Forschern, die bisher vorwiegend oder nur Stichprobenerhebungen traditioneller Art durchführten, Ansichten unterschiebt, die sie gar nicht geäussert haben. Jener Marktforscher, der – nach BERTH – behaupten würde, die Quantität sei alles und die Qualität zähle nichts, müsste wohl als geistig minderbemittelt taxiert werden. Jeder Marktforscher besitzt wohl eine

wenn auch vielleicht allzu vage und wissenschaftlich zu wenig gesicherte Vorstellung von der Qualität der Subjekte, die er zählt. Dazu kommt, dass die wissenschaftlich orientierten deutschen Konsumforscher, allen voran W. VERSHOFEN, schon vor Jahrzehnten die Bedeutung der psychologischen Analyse wie auch der Funktion erkannten. Gewiss, vielleicht haben sie unnötig lange damit gezögert, sich zur Verwirklichung solcher Forschungsziele der tiefenpsychologischen Methoden zu bedienen. Es darf dazu aber immerhin gesagt werden, dass die Intuition, auf die sie abstellten und abstellen, nicht ohne jede bedeutende Erkenntnis blieb. Auf der anderen Seite sind die heute als modern geltenden Forschungsmethoden nun doch noch keineswegs von jeder Problematik frei. Wenn aber BERTH seinerseits sagt, der Qualität komme primäre und der Quantität nur sekundäre Bedeutung zu, so nimmt er damit eine Wertung vor, die mindestens ebenso einseitig ist wie die Einstellung, die er den «Nasenzählern» ankreidet.

Universität Basel, Basel (Schweiz) OTTO ANGEHRN

HENRY J. BRUTON. *Nuevas Aportaciones a la Teoría del Crecimiento*[1]. Mexico 1960. Centro de Estudios Monetarios Latinoamericanos. 153 pp.

It is an excellent idea for the Centro de Estudios Monetarios Latinoamericanos to make available to Spanish speaking readers works that survey, summarize, evaluate and contribute to the economic science of other countries—mostly English speaking ones. In this case, however, the result is chastening: from a well written survey of "New Contributions to Growth Theory" one emerges with the impression that knowledge in this field has not yet quite reached the level of that of value theory at the time of the "empty boxes" controversy. What Mr. BRUTON has to offer is a generally lucid exposition of the simplest fashionable growth model and some speculations about the factors underlying the formal relations expressed by the model.

The basic model itself is very simple: equilibrium growth is determined by the condition that the following two ratios be equal:

$$\frac{\text{Investment coefficient}}{\text{Capital output ratio}} = \frac{\text{Propensity to save}}{\text{Accelerator-propensity to save}}$$

or rate of growth of output = rate of growth of income where all components are assumed constant and average values equal marginal values. Mr. BRUTON's exposition is commendably clear; yet at times he falls into odd formal errors or invests utterly tautological statements with the character of additions to factual knowledge. For instance, on page 38: "... (our analysis) has discovered the

1. Quotations are unauthorized translations by the reviewer. E. L.

principal and most immediate motive power of an economy: entrepreneurial activity." Discovered? Defined, rather, since on page 16 it is clearly stated that the analysis will confine itself to a closed economy and that the government sector will be ignored[2].

The author recognizes that the assumption of constant parameters makes the model only useful for short-run growth analysis since each parameter is in truth but a weighted average of the corresponding parameters of the individual sectors of the economy. Growth, if it affects different sectors differently, will alter the weights and thus the aggregate parameters. An input-output model is suggested to handle the disaggregation necessary, but no more than hints as to the implications of this for further research are made. The main body of the book consists of speculations about how the crucial parameters are likely to move, over time, in a model in which they become variables. The author calls for such a model, but his own wanderings in a maze of sociological and socio-psychological considerations, when trying to set down possible determinants of these parameter-variables, reflect the vanity of such a quest today. This is so in spite of the undeniable competence of the author: many shrewd and suggestive observations and apposite references to a fair amount of empirical findings are made, and great expository and summarizing skill is shown.

Nevertheless, the discussion of population growth carries us little beyond the fact that MALTHUS was wrong (although this judgement should be modified by noting the unusual and valuable attention given by Mr. BRUTON to urbanization). About the determinants of the labour force: population ratio we remain in the dark except that we are told that many offsetting tendencies are at work. Little more is known about long-run saving propensities: did past stability result from offsetting household and business saving trends? The discussion of the capital-output ratio suffers from similar and additional defects. For one thing, it highlights the limited usefulness of the basic model; repeatedly, when factual observations creep in, they flatly contradict implicit assumptions of the model. Thus, the statement is made that in under-developed countries interest rates tend to be relatively high and therefore "...may have considerable importance—even on the short run—in determining the productive techniques used" (page 93). Now the basic HARROD-DOMAR model implies complete complementarity between productive factors[3], and Mr. BRUTON himself elsewhere makes this assumption. Besides, the net result of the discussion is once more an enumeration of many factors working in different directions: at the stage where the "infra-structure investment" is made the capital output ratio may fall as production bottlenecks are broken through, then, as manufacturing industries increase in importance, the ratio may rise again and finally, as tertiary industries grow in response to higher income levels, the ratio may fall once more. While this at least has the merit of a concrete hypothesis, it also illustrates how theories can be shaped by implicit

2. It is true that elsewhere entrepreneurs are defined as all decision makers in investment and innovation activities. But even so, the "discovery" is merely an implication of the simple Keynesian model used—in which no autonomous consumption variable exists—and of the absence of a foreign sector.

3. For an elegant demonstration of this, see HAROLD PILVIN, *Full Capacity vs. Full Employment Growth*, Quarterly Journal of Economics, November 1953.

appeals to particular historical experiences: because in the presently fully industrial countries the demand for social and other services came at a fairly late stage, it is assumed that the same will happen in the presently under-developed countries: a deduction surely in conflict with present day facts.

One could go on like this and make similar points about the treatment of innovations and inventions, of aggregate demand, and of the entrepreneurial supply function. But it may be more useful to concentrate on the discussion of "The social structure of growth" (Chapter v) because it throws some interesting light on the basic methodological issues. The author here shows commendable awareness of the crucial importance of this area and of the poverty of economics (or other social sciences) in dealing with it. It is fairly easy to describe social structures and value systems, he tells us, "... the real problem... is to specify the relation between economic change and social change and vice versa. Unfortunately, little is known of this relation, so a few generalities will have to suffice" (page 140). But having said this, he discusses only a few of what would seem to be crucial items, and only those that have clear and obvious relevance to the parameter-variables of the model. The institutional aspects of choice of occupation by the young, consumer's wants, work incentives and attitudes toward change can be fitted neatly into the model, and so are discussed. But what of the role of government, or of class struggle, or of vested interests, or of nationalism, or of military institutions, of or foreign firms and the international transmission of technological change, or of the long-run terms of trade or of any other factor of more than casual relevance to growth? They are all ignored, since the model was one of a closed, private economy. And yet the author has called for "...a general theory of growth, applicable to all countries" (page 13), and one in which the structural equations contain the same variables without regard to time or place, although the value of the parameters may vary from country to country. Surely it is in the basic assumption of the possibility of such a theory, that the very excellent economic technician gave way to the less than excellent methodologist and so went badly astray. The structural equations include behavioural variables, and there is no reason in the world why similar behavioural functional relations should exist in vastly different societies. The burden of proof lies with the affirmative.

Washington, D.C. (USA) ENRIQUE LERDAU

WILLIAM DIEBOLD. *The Schuman Plan. A Study in Economic Cooperation 1950–1959*. New York 1959. Frederick A. Praeger. 750 pp.

Cet ouvrage est la meilleure mise au point qui ait été écrite sur la Communauté du charbon et de l'acier.

Sa qualité vient d'abord de la précision, de la minutie de la documentation; l'auteur a su la rechercher avec une conscience à laquelle il faut rendre hommage

et qui confère a cet ouvrage un indéniable caractère scientifique. Il a su au surplus faire le départ entre l'information exacte et les renseignements de propagande, qui ont été si nombreux à propos d'une tentative dont les implications politiques sont trop évidentes. On perçoit au surplus dans maintes pages que l'auteur ne s'est pas contenté d'informations écrites et publiées, très copieuses d'ailleurs, mais qu'il a tenu à s'entourer des avis de techniciens et de politiques.

Le plan de cet ouvrage ajoute encore à la qualité de l'information: La première partie est consacrée à la genèse de la Communauté, dont sont lumineusement analysées tour à tour les raisons profondes – l'analyse est sur ce point excellente – et les étapes de formation au niveau des discussions diplomatiques, puis parlementaires; peut-être simplement l'auteur aurait-il pu mieux montrer que les motifs politiques ont pris le pas sur les raisons économiques, celles-ci n'ont souvent été que prétexte, et la prétendue complémentarité Ruhr-Lorraine n'est en fait qu'à sens unique. Cette première partie se termine par une définition du pool d'après le traité, telle qu'elle résulte de l'analyse du traité.

La deuxième partie, ainsi que la troisième – plus spécialement axée sur les rapports de la CECA avec le reste du monde – traite de l'activité de la Communauté de 1950 à 1959; l'auteur examine successivement la constitution même du marché commun, et une série de problèmes particuliers: transports, subventions, taxes, pratiques de prix, problèmes techniques comme celui de la ferraille; il montre sur chaque point l'efficacité de l'intervention de la Haute autorité. Il est évidemment plus embarrassé – et on le comprend – pour d'autres domaines: l'investissement, où le rôle de la CECA reste modeste, l'aide à l'adaptation de la main-d'œuvre, et surtout le problème des cartels où elle a échoué – l'auteur parle de «commencement», mais n'est-il pas alors un peu optimiste!

Quant à la dernière partie, elle est une sorte de jugement d'ensemble sur la CECA, sur son activité passée et son caractère, sur ses possibilités futures.

Cette trop courte analyse n'a pour but que de montrer la richesse et l'intérêt d'un ouvrage qui a su, au surplus, s'abstenir de polémiques et a tenté un jugement et un examen impartiaux: par là encore, M. Diebold a fait œuvre scientifique, et on ne saurait trop l'en féliciter.

Les remarques qui vont suivre ne sont que l'expression de l'intérêt qu'a eu le signataire de ces lignes à la lecture de cet ouvrage et ne relèvent pas d'une critique systématique: l'ouvrage manque de cartes, celles qui sont sur les pages de couverture, à l'intérieur du livre, sont trop sommaires. Pourquoi au surplus n'avoir pas souligné quelques lacunes graves du traité et partant de l'activité de la Communauté: aucun pouvoir pour l'aménagement des moyens de transport – et pourtant le problème de la Moselle se posait dès l'origine et aura mis au moins 10 ans avant de trouver une solution matérielle, celui de la liaison Rhône-Rhin se pose aussi dans le cadre de la CECA – aucun pouvoir réel pour l'égalisation réelle des charges salariales. Une question, en réalité double, mérite aussi d'être posée: la CECA n'a-t-elle pas réussi parce qu'elle a eu la chance de trouver un marché en expansion? – Deuxième question: à la lumière de la récente crise européenne de stockage charbonnier, la Haute autorité n'apparaît-elle pas désarmée devant les gouvernements, et pourra-t-elle apporter une solution réaliste

au problème actuel sur le principal secteur énergétique en expansion, celui des hydrocarbures?

L'ouvrage de M. Diebold mérite de figurer dans la bibliothèque de tous les hommes politiques et hommes d'affaires, conscients de la nécessité de sauver l'Europe par une affiche, mais obligatoire, unification.

Paris JEAN CHARDONNET

PAUL ERDMAN and PETER ROGGE. *Die Europäische Wirtschaftsgemeinschaft und die Drittländer.* (Veröffentlichungen der List Gesellschaft, Bd. 19.) Tübingen und Basel 1960. Mohr (Siebeck). 337 S. Lw. 28 DM

A book devoted to the possible impact of the European Economic Community on trade with third countries is a welcome addition to the rapidly growing literature of economic integration. Most writings dealing with the Common Market have not paid sufficient attention to its trade-diverting effects, and any discussion actually given to the problem has been couched in rather general terms. A disaggregation of the "third countries' problem" is undertaken in the book under review.

The principal thesis of the book is that the third countries' position is determined by a *Präferenzeffekt* and a *Wachstumseffekt*. The former expression denotes the reduction in the exports of third countries to the Common Market consequent upon the preferential treatment given to union-members in the form of abolishing intra-union tariffs, while the latter refers to the boost given to imports by accelerated growth in the union. With a smaller or larger margin of error, estimates can be provided on the "preference-effect"—at least for a number of commodities and commodity groups. Less can be said with regard to the "growth-effect", since it is uncertain to what degree the establishment of the union will contribute to growth. To get around this problem, the authors accept the GATT's estimate, according to which, between 1953–1955 and 1973–1975, the gross national product of the Common Market countries would increase by about 90 per cent in the absence of integration; and they also make use of figures provided by GATT for demonstrative purposes which assume a 120 per cent, or, alternatively, a 150 per cent increase in national income for the same period *after* integration.

The preference-effect and the growth-effect are examined on the theoretical level, and are also discussed for the case of various commodity-groups and countries. The introductory theoretical chapter (which deals also with the terms-of-trade effect) provides a useful summary of the pertinent literature. It can be objected, however, that the authors do not consider the possibility that prices in the union may fall as a result of eliminating high-cost producers and suppressing intra-union tariff-barriers; consequently, they leave out of account the reper-

cussions that price-reductions have on imports from third countries via increased consumption. This deficiency reflects the inadequate treatment given to possible changes in the general price-level and in relative prices in general, and to the relationship between price-changes and trade in particular.

The theoretical discussion of the trade-diverting effects of a union is followed by an excellent evaluation of the experience in the OEEC, the European Coal and Steel Community, and the Benelux, and by a description of the economic situation and the trade pattern of the Six. The second half of the book is devoted to a sector by sector examination of the Community's impact on imports originating in the rest of the world, supplemented by an analysis of the position of seven particular countries.

The authors warn the reader that little can be said on future changes in the trade of industrial products, and concentrate their attention on agricultural products and raw-materials that comprise three-fourths of the Community's imports from the rest of the world. Judiciously, the authors do not confine their attention to the possible repercussions of changes in tariffs and incomes on trade, but consider also the role of distributional channels, tastes, policy-objectives, etc. in the expansion (or contraction) of trade. The conclusion is reached that trade-diverting effects will be most pronounced in the case of agricultural imports from the temperate zone (with the exception of raw materials of agricultural origin), and will be of lesser importance for tropical products, since the possibilities of expanding production in the overseas territories associated with the Common Market are rather limited. Raw-material exporting countries will benefit from the establishment of the Community; and it is suggested that trade in industrial products may also expand as the growth of the Six accelerates.

The country-studies (Greece, Ghana, Brazil, Nicaragua, Cuba, Pakistan, and Ceylon), too, are bound to arouse interest in the professional reader and the layman alike. One is only sorry that more country-studies could not have been included in the volume. Given the newly arising interest in a future accomodation between the Six and the Seven, it is hoped that future research will proceed to examine for example, the position of Austria, Switzerland and Denmark (all heavily dependent on exports to the Common Market) in face of the establishment of the Community.

Although some will reach conclusions different from those of the authors on the basis of the empirical material presented in this study, most readers will agree that we are dealing here with a book based on painstaking research which constitutes a valuable contribution to the literature on the Common Market.

Yale University, New Haven, Connecticut (USA) BELA BALASSA

RICHARD EVELY and I. M. D. LITTLE. *Concentration in British Industry.* (The National Institute of Economic and Social Research, Economic and Social Studies XVI.) Cambridge 1960. Cambridge University Press XVI, 357 pp. 55s.

PAUL H. GUENALT and J. M. JACKSON. *The Control of Monopoly in the United Kingdom.*

These excellent studies are complementary, providing penetrating insight into the present economic and legal status of concentration and monopoly in Great Britain. The former is an empirical study of the structure of industrial production, 1935 to 1951, making ingenious statistical measurements and evaluations of concentration data for 147 Trades and 200 Sub-Trades. The latter sketches the origin and operation of the Monopolies and Restrictive Practices (Inquiry and Control) Act of 1948 and its modifications especially in 1956, treating them as a "single experiment in the *control* of monopoly". It intentionally refrains from covering the vast and complex problem of monopoly itself.

The EVELY and LITTLE analysis finds usable figures in 1951 on net output, employment, unit size-ratio, plant size-ratio, number-ratio, and average plant size for 220 trades. Of these fifty show high, that is, three firms with 65 percent or over net output concentration ratios. They employ only one-tenth of the total labor force. Sixty-nine trades with medium (33–66 percent) concentration employ about one-quarter of the total labor force, the remaining 101 trades with low (less than 33 percent) concentration employing the remainder. Among these, however, were thirty-eight trades (with more than 21 percent of the total labor force) characterized by a few large units, a large number of smaller units, and price leadership. The authors find that "something approaching the perfectly competitive type of structure is only found in trades with about one-quarter of the total employment" (p. 11).

Multiple regression analysis of the logarithms of the variables yields findings that "concentration is negatively correlated with trade size and with the number and size-ratio of units, and positively correlated with the average size of units or plants" (p. 15). In nearly all cases, the leading firms have grown primarily by external expansion (merger, amalgamation, etc.) and maintained their position since 1935 despite rapid growth of industry, primarily because of such production factors as capital requirements, patents and technical know how, access to raw materials, economics of large-scale operation, restrictive arrangements and State regulation. Bolstering these barriers to new entrants were such market factors as advertising and sales promotion, distribution methods and service facilities, and restrictive practices in distribution.

The authors point out that "the concentration ratio is little more than as tarting point in the detection of monopoly 'power'" (p. 48). Monopoly power cannot be exactly defined. Suppose one defines it as existing in a trade where firms singly or as a group have the long-run ability, within a range and without reducing sales

to zero, to choose or influence the price of a product by varying the amount offered for sale. How distinguish behavioristically the acts which indicate the ability, actual or potential, to manoeuvre price and output policies from those which firms are constrained to make by market forces external to themselves? There seem to be no identifying labels of active versus passive adaptation.

Moreover, concentration-ratios convey limited information. The unit about which Census Bureaus gather information is usually a so-called product (often with many substitutes), a plant (often but a part of a larger production complex), an establishment or a so-called industry (frequently a hodge-podge of separate industries producing a substance, such as for example, sulphuric acid which is main product, joint product, by-product of copper, zinc and oil refining and subsidiary to phosphate and other manufacturing). Except for industries with numerous small proprietorships and partnerships, Census categories rarely provide data concerning the unit of managerial decision-making and exercise of monopoly power, i.e., the corporate concentrate, the trade association, the cartel, the *Interessengemeinschaft*, the financial consortium, the informal, cohesive cluster of capitalists and executives who comprise the national and international power élite.

For these groups, national and international industry, commerce and finance comprise a chessboard on which products, plants, industries, and even governments are pieces moved with variable difficulty and strategy toward sustainably profitable national and international price and output goals. But neither in Great Britain nor elsewhere are such operations subjected to more than indirect superficial statistical illumination.

Nor does government there attempt any more than in the United States, to break them up. As Professors GUENALT and JACKSON emphasize in their study of *The Control of Monopoly in the United Kingdom*, "it is patently clear that a major task, that of dealing with the classical single-firm monopolies, remains unsolved" (p. 188).... "The Act, as it stands, increases the attractions of amalgamation and other forms of integration and association" (p. 191), precisely the same result as under the Sherman Act in the United States.

In the absence of information and lacking a blueprint of optimum industrial structure, both governments wisely refrain from 3-D (divorce, divestiture, dissolution) procedure. Indeed corporate giantism in Britain as in the United States, may have grown beyond the point of no return. Devices other than antitrust laws may be needed such as, for example, lowering tariff protection for giant firms, stimulating new and small business, fostering research, new products and new methods, cooperatives, registration of cartel agreements, government competition, and requiring firms of a specified giant size to organize as "public corporations" or specially chartered "semi-public concerns" (p. 22).

The monopolies and Restrictive Practices Acts of 1948 *et seq.* were based essentially on a rule of reason with respect to practices in industries "where one-third of the goods in question were supplied in the United Kingdom or any substantial part thereof by or to any one person or a group of persons acting in such a way as to restrict competition" (p. 43). Among the practices reported on were exclusive dealing, collective boycott, technical cooperation, fighting brands or companies,

control of materials, machinery, supply or productive capacity, limitations on imports, quota schemes, common prices, resale price maintenance, aggregated rebates, and restrictive patent and tendering agreements. In no case did the Commission recommend "drastic reorganization of the industry investigated, but rather abandonment or modification of certain of the arrangements operative in the trade" (p. 119).

The government in most cases did not act on the recommendations of the Commission. Even in the eight industries where action was decided upon "the Government preferred to implement its decisions by means of negotiated agreements rather than by the use of orders" (p. 142). "The results" [of such consent decrees] "were not sufficiently substantial to claim governmental or public attention" (p. 144).

The Restrictive Practices Act of 1956 recast and considerably tightened the law. Certain practices were presumed to be harmful and prohibited unless it could be proved to the satisfaction of a special court, that in particular cases they promoted the public interest. Certain other practices for the collective enforcement of resale prices were harmful and prohibited in all instances whereas individual price maintenance was facilitated. The Act provided for a Registrar of agreements "relating to common prices, level or agreed tendering, the granting of preferential terms and the confining of supplies to certain persons" (p. 175). As of late 1959 over 2200 agreements had been registered, 600 abandoned, and 130 cases pending.

One fact which emerged from the inquiries was that, in general, the arrangements which were condemned did not appear to give rise to large or easy profits but did result in rigidities in the structure of industries and diminished incentives to reduce costs and prices and improve production and distribution. In permitting individual price maintenance, the door was left open to practically all the restrictive practices relating to collective enforcement. The urgent claims of other problems—defence, balance of payments, etc. and higher levels of living, submerged public interest in monopoly and restrictive practices such that British public opinion tolerated and accepted "a long phase of slow and careful investigation, followed by the unimaginative and incomplete system of control established in 1956" (p. 193).

One hesitates to draw the interesting parallels between British and American antitrust experience with the rule of reason, performance tests, Trade Commission Group I, II and III rules, encouragement of mergers, tough handling of collective restraints on trade, inaction towards the giant firm problem, the promotion of monopoly by regulatory bodies, etc. Suffice it that facts contained in the two studies and the conclusions reached place all students and administrators concerned with the problem of restrictive practices and corporate giantism heavily in debt to Messrs. EVELEY, LITTLE, GUENALT and JACKSON.

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W. FRIEDMANN. *Law in a Changing Society*. London 1959. Stevens & Sons. 522 pp. 50s.

Ce livre répond au souci essentiel d'une élite de juristes, qui désirent sauvegarder le contact du droit qu'ils enseignent et pratiquent, avec le temps où ils vivent. Ils ont, en effet, l'entière conscience que le droit perdrait son sens s'il rompait avec la vie sociale contemporaine.

Monsieur FRIEDMANN, dont le nom et les ouvrages sont bien connus, avait déjà publié un «livre de cas» destinés à rendre tangibles les changements apportés au droit britannique par les transformations de cette vie sociale contemporaine. L'ouvrage qu'il publie maintenant passe de l'examen particulier d'espèces choisies aux vues générales qui les dominent. Et, élargissant l'horizon, il n'envisage pas seulement le droit britannique, mais le monde juridique des civilisations modernes. En outre, il s'agit d'un monde juridique comprenant – car les Anglais ne distinguent guère – le droit public à côté du droit privé, le droit international à côté du droit interne, dans un panorama aussi complet que possible.

Si la conviction de l'auteur reste faite de l'humanisme occidental, s'il se montre fidèle à l'idéal démocratique inspiré par cet humanisme, s'il pense que la raison d'être du droit est inséparable des idéaux de liberté, d'égalité des hommes, comme du contrôle du peuple sur ses institutions publiques, il n'en refuse pas moins de se bander les yeux sur les données nouvelles devant lesquelles le juriste se trouve placé, dans cette fidélité même. Il ne croit pas possible de continuer à étudier le droit dans la «mythologie de la libre entreprise», qu'avait construite l'époque de l'économie libérale. S'il est conscient, en matière familiale, du danger d'une «huxleyan or orwellian society», il n'en souligne pas moins la triple crise apportée à la famille occidentale par les conceptions philosophiques de notre époque, par une vie économique renouvelée, et par les découvertes biologiques contemporaines. Conscient des problèmes juridiques posés par l'insémination artificielle, le *birth control*, et l'avortement provoqué, il marque aussi comment l'égalisation du mari et de la femme transforme les institutions matrimoniales, et comment la famille patriarcale d'autre fois se voit remplacée par le ménage familial.

Nous avons retenu ces exemples parmi les plus frappants. Mais nous avons dit l'étendue du théâtre que l'auteur prend comme objet de sa recherche. Après une partie générale consacrée aux liens qui unissent les métamorphoses du droit avec les changements du donné social, le livre envisage successivement l'influence des transformations sociales sur la propriété, les contrats, la responsabilité civile et l'assurance, le droit criminel et le droit familial. Puis il confronte, dans ces transformations, l'individuel et le social, montrant le déclin des anciennes conceptions individualistes et libérales, en présence du caractère impérieux des exigences collectives d'aujourd'hui. C'est à ce point de son développement qu'il s'attache naturellement au droit public, puis au droit international, avant de présenter ses conclusions.

Il montre alors comment l'Etat, cessant de protéger simplement les personnes individuelles, est devenu dispensateur des services sociaux, maître de l'économie nationale, enfin arbitre des différents groupes sociaux. Il invite les juristes à garder, dans cette conjoncture, leur vigilance, pour la sauvegarde de l'idéal démocratique de liberté, d'égalité et de souveraineté populaire. C'est l'idée même de justice qui serait tragiquement compromise s'ils ne répondaient pas à cette vocation.

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WALTER ISARD, EUGENE W. SCHOOLER and THOMAS VIETORISZ. *Industrial Complex Analysis and Regional Development:* A Case Study of Refinery-Petrochemical-Synthetic-Fiber Complexes and Puerto Rico; Regional Science Studies. New York 1959. Technology Press of M. I. T. and Wiley. 282 pp.

The economics of islands in general is a fascinating subject, and much can be learned from their population histories, but it remains unexplored on the whole. American scholars are, however, giving a great deal of attention to one particular island, whose problems are a concern to their government, Puerto Rico. The present study takes a fresh look at the problem of what to do for its economic development. The island is poor in natural resources, overpopulated and relatively far from markets. It is however, relatively close to Venezuelan oilfields. This study seeks to determine whether any industries based on imported crude oil could be economically feasible in Puerto Rico. From the great number of petrochemical processes and products the authors quickly select as the most promising, fertilizer and synthetic fiber production; the former because at present all fertilizer must be imported, and the latter since fiber production is relatively labor intensive and might afford a basis for a local textile industry.

The bulk of the book is given over to meticulous calculations of the savings in production and transportation cost, if any, for the various programs of production that are technically feasible in an integrated refinery-fertilizer-petrochemical-synthetic-fiber complex or parts thereof. From a theoretical point of view the most interesting aspect is perhaps that the utilization of the various refinery byproducts by means of a balanced program of diverse products affords certain agglomeration economies. There are also economies of scale present because in chemical technology most capital equipment—vessels, pipe lines, etc.—increases less than proportionately with the scale of operation, and this gives an additional spur to vertical integration.

The data assembled form an impressive collection. It is tempting to split the problem into that of determining the best product mix and that of determining the optimal scale (with repercussions for the product mix). The first would be a

natural problem for Linear Programming analysis. The authors have chosen instead a unified treatment from the start. They pay the price of having to exercise a certain amount of judgment in cutting down to practical magnitudes the vast number of alternatives for consideration. The assumptions involved are, however, always made explicit and all the estimates are on the conservative side. The conclusions are highly qualified and stated in guarded language. It appears that in petrochemical operations proper Puerto Rico is hardly competitive with mainland locations, but that in fiber production proper, particularly of Dacron, there is a decided advantage at least compared to moderate scale operations on the mainland, the most realistic alternative at the present.

The book is an illustration of the mass of data that must be considered and of the complexity of the calculations sometimes required in giving responsible advice on location decisions. As a case study it is admirable. It does not leave one with too clear a notion, however, of what "industrial complex analysis" is in general. Written for experts, this book will hardly appeal to the general reader, but there is fascinating material here on the technology of modern petrochemistry. This is the third volume of Regional Science Studies.

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LEIF JOHANSEN. *A Multi-Sectoral Study of Economic Growth*, Amsterdam 1960. North-Holland Publishing Co.

This book is a pioneering effort to analyse a number of economic relations that are omitted from the aggregate models commonly used in studying economic growth. In the opinion of this reviewer, the result is one of the most interesting and ingenious econometric studies of recent years. It provides an important extension of the methods of interindustry analysis in addition to clarifying some central questions in the field of economic development.

JOHANSEN's main objective is to determine the increase in sector output and the allocation of capital and labor among individual sectors in an equilibrium growth process. For this purpose, he constructs a model that comes closer to the Walrasian equations of general equilibrium than any that has been previously used in empirical studies. The most important relations included are:

(a) A LEONTIEF input-output system for flows from one producing sector to another.

(b) COBB-DOUGLAS production functions for use of labor and capital in each sector of production, with allowance for either constant or decreasing returns to scale.

(c) Demand functions containing prices as well as total consumption as determinants of consumer demand.

When combined with the classical maximizing assumptions, these relations yield a model in which there are four types of equation for each sector of production:

(i) An equation for the price of the output.
(ii) An equation for the return to capital.
(iii) An equation for commodity output.
(iv) An equation for the increase in productivity.

Since the model contains 22 sectors of production, there are a total of 84 equations of this type (four are omitted), plus two equations for the use of capital and labor.

The model has a linear form because the variables are taken as growth rates or as derivatives with respect to time. The 86 equations therefore yield solutions for 86 endogenous variables: the use of capital, labor, output, and price for each sector, the rate of return to capital, and total consumption. The exogenous variables are total factor supplies and non-consumption demands and productivity changes in each sector.

While the algebraic statement of this sector growth model leads to some generalizations about the nature and direction of interrelated changes in demand and production, by far the most interesting results come from statistical estimates of the functions for the Norwegian economy in 1948–1953. While some of these, such as the parameters in the production and consumption functions, are quite rough, they show the relative importance of the various factors involved. JOHANSEN exercises suitable caution in claiming more than illustrative value for most of these conclusions, but they are quite useful in qualifying or disproving some of the inferences from over-simplified models that are common in the field of economic development. Perhaps the best known of these fallacies is the assertion that the increase in employment in a given sector depends mainly on the income elasticity of demand for its output. JOHANSEN shows convincingly that income elasticities are often outweighed by the combined effects of differences in productivity, factor intensity, trade patterns, and price changes in determining the sector distribution of employment.

My principal criticism of this valuable study is that little concession is made to the reader who is more interested in general economic implications than in the algebra of the model and details of the particular solution given. Although JOHANSEN presents his elaborate sequence of model construction and estimation with admirable clarity and brevity, he leaves it to the reader to dig out many of the most interesting conclusions for himself. The relation of each of the 86 endogenous variables to each of the 46 exogenous ones is presented in the form of an 86×46 "solution matrix". This is used to determine the effect on sector growth rates of the estimated changes in the exogenous elements in Norway in the period under study. While JOHANSEN's analysis of the effects of exogenous elements is mathematically convenient, it does not necessarily reveal the economic relationships in which economists are most interested. For example, the measured effect of capital accumulation on the labor required in agriculture combines partial effects of increased per capita income, changed factor proportions, decreasing returns to scale in agriculture, and changes in relative prices throughout the system. To

relate the general equilibrium results for the reduced model system to the usual partial-equilibrium frame of reference requires quite a bit of additional calculation by the reader.

Despite this minor qualification, JOHANSEN's work is a gold mine of new ideas for both the econometrician and the student of economic development. In the latter field, much of the discussion of balanced growth, capital intensity, investment priorities, and other aspects of resource allocation is illuminated by this concrete example of the complicated adjustments that take place in a general equilibrium system. Whether such a complex model would be useful for prediction at the present stage of our knowledge is a different question, and one that JOHANSEN does not explore. As a guide to general equilibrium analysis, however, most economists should find JOHANSEN's study well worth whatever effort is required to comprehend his principal findings.

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LOUIS LEFEBER. *Allocation in Space. Production, Transport and Industrial Location.* Collection "Contributions to Economic Analysis", vol. XIV, North-Holland Publishing Company, Amsterdam, 1958. 151 pp.

Allocation in Space est, sans aucun doute, un livre important qui retiendra l'attention à divers titres.

Tout d'abord, c'est la première fois, à notre connaissance, que L. Lefeber publie une étude sur l'économie spatiale et il nous dit lui-même, dans sa préface, qu'elle est le fruit des travaux qu'il a poursuivis au Center for International Studies (Massachusetts Institute of Technology) et au Department of Economics à l'Université de Harvard. Le premier titre de son livre est en partie issu de sa thèse de doctorat, présentée devant le Department of Economics du Massachusetts Institute of Technology.

Cependant, non seulement l'auteur est nouveau, mais encore l'œuvre – en ce sens qu'elle est marquée d'une puissante originalité. En effet, conformément à la préoccupation centrale qui domine la recherche contemporaine dans ce domaine, L. Lefeber se propose d'élaborer une théorie générale de l'équilibre spatial d'un système économique, sur le modèle de l'analyse néo-classique moderne. Or, on sait que Walter Isard s'est assigné le même objectif, notamment dans son livre *Location and Space-Economy* (The Technology Press of Massachusetts Institute of Technology and John Wiley & Sons, Inc., New York, 1956) et dans ses travaux ultérieurs élaborés dans le cadre de la *Regional Science Association.*

Mais L. Lefeber rejette la méthode suivie par Isard et s'engage dans une voie nouvelle. Ce n'est pas le lieu d'entrer dans le détail des divergences qui séparent les deux auteurs sur le plan de la technique d'analyse. On retiendra seulement

que le point de départ des analyses de L. Lefeber n'est pas le même que celui des modèles de W. Isard: il écarte l'hypothèse d'une «plaine théorique» à la Thünen ou à la Lösch (ou surface de transport continue) et admet un nombre fini et déterminé de points de localisation de la production et de la consommation. Par ailleurs, il préfère une approche opérationnelle à une construction analytique et recourt aux techniques de la programmation économique. Sur ce dernier point, il se rapproche certes des travaux les plus récents de W. Isard, mais il reste que les différences dans les modes de formalisation théorique se reflètent dans la structure des programmes utilisés. Enfin, d'autres hypothèses, moins originales, quoique fondamentales, sont posées: les prix sont donnés (au moins au départ de l'analyse), la structure du marché est purement concurrentielle, les fonctions décrites sont continues et linéaires.

Sur ces bases, la construction théorique s'élabore progressivement. L'allocation spatiale des facteurs de production est d'abord décrite, en éliminant le problème de la distribution par l'hypothèse de la gratuité du transport des produits. Puis, le modèle obtenu est généralisé en introduisant l'hypothèse suivant laquelle les lieux de consommation sont différents des lieux de production – ce qui permet de tenir compte des frais de transport des produits. Enfin, le problème de la localisation est traité dans sa plus grande généralité, en rejettant encore une hypothèse admise antérieurement et d'après laquelle chaque lieu de production ne pouvait recevoir qu'une seule implantation.

Cependant, cette suite d'élargissements des hypothèses les plus restrictives ne doit pas faire oublier que l'auteur raisonne toujours pour deux points, deux sources d'offre de facteurs et deux produits. Seul un appendice du livre esquisse un essai d'analyse complète, tenant compte d'un nombre indéterminé de lieux de production et de consommation et d'un nombre également indéterminé de facteurs et de produits. Le modèle atteint alors un haut degré de complexité, au détriment de son intérêt pratique. Sur le plan théorique, certains problèmes de sommation et d'agrégation auraient mérité, en outre, un approfondissement.

En conclusion, on signalera une étude de T. A. Goldman (Papers and Proceedings of the Regional Science Association, vol. IV) dont la lecture mérite d'être rapprochée de celle du livre de Lefeber. Un modèle à trois points de consommation et de production, situés aux sources des trois matières premières nécessaires, est traité, d'une manière similaire, par la méthode des programmes économiques. Toutefois, si le problème de l'allocation est posé de façon identique, sa solution est inverse, en ce sens que le dual de Lefeber devient le primal de Goldman. Evidemment, les deux formes de programme linéaire aboutissent aux mêmes résultats.

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E. A. G. ROBINSON, ed. *The Economic Consequences of the Size of Nations.* (Proceedings 1957 Conference of the International Economic Association.) London 1960. Macmillan. XXI, 447 pp. 50s.

Most of this book is easy reading, with the notable exception of one econometric paper. It is, however, a difficult book to review since the volume contains nineteen papers on conceptual and definitional problems, on a variety of theoretical hypotheses concerning small countries and on empirical topics. Space does not permit a critical appraisal of each paper. This task, moreover is rendered superfluous, as 180 pages of the book are given to a critical discussion of each of the nineteen papers by the other participants of the conference. Thus, this review cannot aspire to be much more than an expanded table of contents.

The economic literature is virtually barren of any systematic discussion on the economic effects of the size of nations. Many of the topics of this collection should be of interest to specialists in international trade, industrial organization, economic development and economic history.

Part I contains two papers. First, SVENNILSON aims to define the relevance of the concept of the nation—large or small—to economic analysis. This is done in terms of economic, social and political discontinuities. KUZNETS, then attempts to delineate, at least tentatively, some of the specific economic characteristics of small nations: lack of diversification, a high foreign trade—national income ratio, concentration of foreign trade in few export markets and few products, limitations to the division of labor, especially in the service industries.

Part II contains case studies of "efficient" small and large nations. FABRICANT covers the United States, JÖHR and KNESCHAUREK cover Switzerland and DUSQUESNE DE LA VINELLE Belgium. In Part III JEWKES and EDWARDS explore historical trends and the absence of such trends in the size of plants and firms in various countries, the range of economies of scale, the effects of these on the economic organization of small countries and also the nature and location of international cartels.

Part IV—"Size of Nations and Dynamic Adjustment"—contains three general papers dealing with problems of structural, cyclical, and secular adjustments by VAKIL and BRAHMANANDA, TARSHIS, LEDUC and WEILLER, and also three further case studies of Italy, Austria and Portugal by MARSAN, ROTHSCHILD and PINTO, respectively. In Part V two papers by E. A. G. ROBINSON and PREST explore the relationship between the size of nations and the cost of administration and defense. Part VI, the last section, concerns itself with "Foreign Trade As An Escape From Smallness". Here TRIFFIN, MACY and SKITOVSKY explore problems of economic nationalism, the position of small nations in foreign trade relations, and the potential benefits of tariff reductions and customs unions. This section also contains VERDOON's econometric analysis of the intra-bloc trade of Benelux.

In this volume many authors focus on related topics; therefore a considerable amount of repetition is bound to occur. Most of the theoretical papers—with the exception of JEWKES' paper—argue that small countries operate under a some-

what indeterminate handicap. Some of these handicaps of smallness are lack of internal competition because of smallness of the market and because of cultural homogeneity of small countries, greater instability of export markets on which small countries are usually more dependent than large ones, less diversification both in terms of export products and in terms of foreign customers.

The empirical case studies do not deal explicitly with all the hypotheses as to the economic effects of smallness raised by the theorists in the same volume; nevertheless the general tenor of the empirical studies is distinctly more optimistic about the economic performance of small countries than what one would expect from an exclusive reading of the theoretical chapters. As a matter of fact most of the empirical discussions are "success stories". The notable exception is the chapter on Portugal, but even in this case the author explains the economic difficulties by causes other than smallness, pure and simple.

The empirical studies are all limited to Western Europe, but there at least smallness per se seems hardly responsible for low income, lack of progress or instability. This reviewer would like to add one further observation. While all the large countries of Western Europe were intensive participants and sufferers of both World Wars, a few small countries were able to preserve neutrality during both World Wars, a considerably larger number were able to preserve neutrality during either World War I or World War II, and again quite a few of those who were involved were actually affected comparatively slightly. While small countries may be in a sense "defenseless", for peculiar reasons their chance for a peaceful existence, while slim, nevertheless seems to be considerably better than that of large countries.

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PASQUALE SARACENO. *Iniziativa Privata e Azione Pubblica nei Piani di Sviluppo Economico.* Roma 1959. Giuffrè. 101 pp. L. 600

This closely reasoned, but undocumented, analysis by Professor SARACENO—an influential adviser on Mezzogiorno affairs—represents his policy prescription for underdeveloped lands. Effectively defining such countries as those in which the marginal productivtiy of labor in agriculture is zero, or nearly zero, he (1) rejects traditional socialist dogma as inapplicable mainly because it undercuts or destroys private enterprise, which needs to be expanded; (2) deems variants of Keynesian doctrine to be quite irrelevant inasmuch as the principal aim of development policy is to create capital rather than merely make fuller use of the existing stock; and (3) finds the 19th-century development model inappropriate mainly in terms of the unattractiveness of gradualness.

In summary terms, SARACENO's prescription may be stated as follows: The state, which must be responsible for the over-all development plan (defined

roughly as a system for directing the use of national resources), should emphasize public investment in capital goods industries chiefly to provide external economies and spur the absorption of labor but also to provide a competitive yardstick vis-à-vis (allegedly monopolistic) private industry in the same field. Social overhead capital must also be formed, but this explicitly excludes state investment in traditional public utilities which, besides being publicly regulated, yield a relatively low return on the nation's scarcest resource. Price control is claimed to be required to prevent monopolistic exploitation by home industries, even though imports could provide the necessary competitive elements; however, the author takes a pessimistic view of export possibilities. Largely to avoid having industrial labor earn windfall incomes during the *long* period of development, he would put a ceiling on wages at about the level prevailing in agriculture. Finally, within such a framework—or straitjacket?—he would encourage private enterprise and the market mechanism, even going so far in some cases as to provide government capital to privately controlled joint industrial undertakings.

SARACENO is to be admired for his effort to find a workable middle way by which government and private industry may use their resources to accelerate development. He has clearly given a great deal of thought to the subject, and shows a wide understanding of the relevant literature (even though he cites none of it). Yet his story is unconvincing to this reviewer, mainly for the following reasons. First, like nearly every other author writing in this field, he assumes that underdeveloped nations are a generalized type, with respect to which carefully written generalizations are meaningful in some policy sense (as distinct from their use in the university classroom for the purpose of merely *introducing* inexperienced students to a broad field of study). Just how fatal such an approach can be is illustrated by the assumption—about as convenient as the merely assumed constant marginal propensity to consume in Keynesian analysis—that in underdeveloped nations agriculture is characterized by a zero marginal productivity of labor. This is not true in fact, as many writers on Latin America and Africa have shown. Even India's case is questionable, as has been indicated by OSHIMA's researches.

Second, most critical variables are set forth merely as assertions rather than approximately demonstrable facts. The critical assertions (1) that men will invest in industrial skills in the requisite number and variety but accept only the rewards of the unskilled and (2) that industry will innovate and operate efficiently under long-term price control—rationalized in terms of vague monopoly charges—are cases in point.

Finally, it is simply too convenient to assume that private industry will invest capital and management up to anything like its potential if it has to compete with government plants; such behavior is most improbable in the light of two facts: one is that governments in the (non-communist) underdeveloped countries range all the way to those which are quasi-Marxist, and the other is the mountainous record of direct and indirect (administrative) discriminations which underdeveloped country governments especially have practised in such guises as taxation, import licensing, and allocation of priorities.

Arbitrariness is no less objectionable because it is buried in a technical context with its closely reasoned analysis. The concept of disguised unemployment which SARACENO adopts, not only to illustrate the matter of poverty but even to the point of basing a sweeping recommendation respecting national wage policy on it, is extraordinary indeed. Thus, the reader is told (p. 42) that the portion of the agricultural labor force which is not totally unemployed "may all be considered underemployed in the sense that it is currently being used at productivity levels much lower than those which development policy seeks to attain". Does the author really believe, in the face of centuries of history in every kind of economy, that he can induce an underdeveloped country's industrial workers calmly to forgo a wage differential, measured from the benchmark of a low agricultural level, by resort to definitional argument of this kind?

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BRIAN TEW, and R. F. HENDERSON. *Studies in Company Finance: a Symposium on the Economic Analysis and Interpretation of British Company Accounts*. Cambridge 1959. At the University Press, for the National Institute of Economic and Social Research. xx, 301 pp. 35s.

This book is a welcome by-product of the British Companies Act of 1948, which brought into existence the standardized and consolidated accounts of 2549 companies, divided into 20 meaningful industries and subject to analysis of the sources and uses of funds. Considering how central to all economics is the behavior of the firm in getting and spending, it is curious that business finance even in the United States, and even more elsewhere, tends to be a neglected field. In part, this is due to the difficulty of getting data which are comparable among years and companies. The strong hand of government enforcing a standard accounting system is almost a basic necessity; even so, the research worker must still do a great deal to put the data in orderly shape, let alone analyze them. One expects a thoroughly competent performance from the authors, and is not disappointed. The editors desired to show not so much substantive results as the kinds of data available, and uses to which they could be put; they had to steer between the rock of excessively refined analysis of crude materials and the whirlpool of cook-book recipes for handling the various kinds of problems involved in working up the data. The result is, I think, highly successful in all but the title. The data and methods touch on almost every branch of applied economics, and one hopes the book will be widely used as collateral reading. In a brief review, we can touch only on two aspects, illustrating perhaps respectively the strengths and weaknesses of the data.

The strength is shown where it illustrates companies reacting to basic stimuli in what we think to be a similar manner, but with variations subject to some kind of a normal law. The old chestnut of "internal versus external financing of in-

vestment" is not so much solved as dissolved when we observe that fixed assets represented less than half of net uses of funds in 1949–1953, increase in stocks being about the same, with small amounts needed for liquid assets and credit extension. The hackneyed comparison of investment in fixed assets versus new capital issues seems to be so far incomplete as to be meaningless. A second fact which emerges—and checks closely with similar experience in the United States—is that trade credit is several times as large as bank credit in the financing of industry. It would be a gross exaggeration to say that bank credit control, and therefore monetary policy, is therefore of only minor importance in controlling business spending and the level of income; a dollar of bank credit may be simply the "gold and dollar reserve" of a creditor corporation, with a multiplier effect when it must be repaid. The real point is that business spending is a use of various assets of various degrees of money-ness, derivable from various sources. Hence there is considerable slippage, especially when business is highly liquid, between changes in bank credit and in business spending; such that within limits credit policy may not work at all, and outside those limits with brutal speed. This volume makes one realize again how little we know about how spending impulses are transmitted from firm to firm. It points up some important deficiencies in the Radcliffe Report; perhaps the Monetary Commission in the United States will be more fortunate.

Where the data tend to be less useful for their own sake is where they refer to industry structure—rate of growth by size of firm and elements of growth, etc. A four-year period is simply a brief and biased sample of any long-term structural developments; furthermore, size and industry are often strongly inter-correlated, so that apparent size phenomena reflect temporary or permanent inter-industry shifts. Here it also becomes important that 2549 companies, with aggregate assets of around £ 8.8 billion (p. 270), are a skewed and incomplete sample of all British firms. A rather substantial fraction, perhaps a third, would be represented by a few household words like Shell, Lever, Imperial Tobacco, and ICI (reckoning only half the assets of the Anglo-Dutch giants). Their peculiarities swing a heavy weight in supposed changes in British industrial structure. It is interesting—and, incidentally, in harmony with American experience—to find that in 1949–1953 the smaller the company, the more important were acquisitions of going concerns as a source of its growth (p. 114). But this explodes no theory about large firms growing through mergers; it is simply one small piece of unfavorable evidence. (Incidentally, money spent on acquisitions might more logically be compared with gross capital expenditures, since the former are a species of the latter; used assets compete with new as objects of company purchase; and gross not net expenditures are what the firm actually lays out. Depreciation is only in form a "source" of funds; it is simply a notation that this much of an asset has been wiped out in the given period.)

And a final conclusion that "the long-term trend towards increasing concentration has been resumed during the five-year period of our inquiry" depends on the assumptions not shared by all, (1) that the variance of the logarithmic distribution of current market values of Stock Exchange companies can in some sense be a meaningful measure of concentration; and (2) that a coefficient lower

in 1955 than it was in 1924 represents a long term increase. Mr. PRAIS was doubtless the victim of excessive brevity imposed by the editors. The structural point is of wider significance, however; and it is therefore good to have the latter half of the book devoted to experience in brewing, cotton, building, building materials, electrical products, and retail distribution. These chapters will perhaps not be so widely read, which is a pity, for there is no better way of understanding the uses and limitations of the data than to see them manipulated in competent and sometimes imaginative fashion.

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BIBLIOGRAPHIE – BIBLIOGRAPHY

ÅKERMAN, JOHAN. *Theory of Industrialism.* Lund, Sweden, 1960. C. W. K. Gleerup. 332 pp. sKr. 25.–

BAADE, FRITZ. *Der Wettlauf zum Jahre 2000.* Oldenburg 1960. Gerhard Stalling Verlag. 304 S. 19.80 DM

BADRE, ALBERT and SIKSEK, SIMON G. *Manpower and Oil in Arab Countries.* Beirut 1960. American University of Beirut. 270 pp.

BAILEY, SIDNEY D. *The General Assembly.* (United Nations Studies.) London 1960. Stevens & Sons. 337 pp. 30s.

BRY, GERHARD. *Wages in Germany 1871–1945.* Princeton 1960. Princeton University Press. 486 pp. $ 10.–

BRYCE, MURRAY D. *Industrial Development. A Guide for Accelerating Economic Growth.* London 1960. McGraw-Hill Book Company, Inc. 282 pp. 58s.

DAVIDSON, PAUL. *Theories of Aggregate Income Distribution.* New Brunswick, N.J., 1960. Rutgers University Press. 151 pp. $ 5.–

ECKHOFF, TORSTEIN and JACOBSEN, KNUT DAHL. *Rationality and Responsibility in Administrative and Judicial Decision-making.* Copenhagen 1960. Munksgaard. 44 S. dKr. 8.–

EGERTON, R. A. D. *Investment Decisions under Uncertainty.* Liverpool 1960. Liverpool University Press. 100 pp. 18s. 6d.

ELKAN, WALTER. *Migrants and Proletarians. Urban Labour in the economic development of Uganda.* London 1960. Oxford University Press. 149 pp. 21s.

EZERA, KALU. *Constitutional Developments in Nigeria.* London 1960. Cambridge University Press. 274 pp. 30s.

FARNSWORTH, HELEN C. *American Wheat Exports, Policies, and Prospects.* Stanford, California 1960. Food Research Institute, Stanford University. 61 pp. $ 1.–

FAUCHERRE, HENRY. *60 Jahre Internationaler Genossenschaftsbund, 1895–1955.* Basel 1960. Buchdruckerei VSK. 558 S.

FELLNER, WILLIAM. *Emergence and Content of Modern Economic Analysis.* London 1960. McGraw-Hill Book Company, Inc. 459 pp. 58s.

GRAF FINCK VON FINCKENSTEIN, HANS WOLFRAM. *Die Entwicklung der Landwirtschaft in Preussen und Deutschland 1800–1930.* Aus dem Göttinger Arbeitskreis. Würzburg 1960. Holzner Verlag. 392 S.

FONSECA, ALOYSIUS JOSEPH. *Wage determination and Organised Labour in India.* Dissertation, Tilburg 1960. 153 pp. R. 15/-

Friedrich-Ebert-Stiftung. *Die Energiewirtschaft, Struktur, Organisation und Tendenzen.* Band I der Schriftenreihe der Forschungsstelle der Friedrich-Ebert-Stiftung. Hannover 1960. Verlag für Literatur und Zeitgeschehen. 306 S.

GALE, DAVID. *The Theory of Linear Economic Models.* London 1960. McGraw-Hill. 330 pp. 74s.

GATT. *International Trade, 1959.* Geneva 1960. The Contracting Parties to the General Agreement on Tariffs and Trade. 189 pp. $ 2.–

Göttinger Arbeitskreis. *Zur Ostdeutschen Agrargeschichte. Ein Kolloquium.* Ostdeutsche Beiträge, Band XVI. Würzburg 1960. Holzner Verlag. 104 S.

GROSSMAN, GREGORY. *Soviet Statistics of Physical Output of Industrial Commodities; Their Compilation and Quality.* Princeton 1960. Princeton University Press. 151 pp. $ 4.50

GURVITCH, GEORGES, ED. *Traité de Sociologie.* Tome second. Paris 1960. Presses Universitaires de France. 466 pp.

I.F.I.G. *Ökonomische und sozialpolitische Themen zur Gemeinwirtschaft.* Festschrift Edgard Milhaud. Lüttich 1960

ISARD, WALTER. *Methods of Regional Analysis: an Introduction to Regional Science.* New York 1960. The Technology Press of the Massachusetts Institute of Technology and John Wiley. 784 pp. $9.50

KIMBLE, GEORGE H.T. *Tropical Africa.* 2 volumes. New York 1960. The Twentieth Century Fund. 603 pp. and 506 pp. $15.–

LULOFS, J. G. *De Amerikaanse Arbeidsmarkt.* Meppel 1960. J. A. Boom en Zoon. 264 S.

MARCSON, SIMON. *The Scientist in American Industry.* Princeton 1960. Princeton University Press. 158 pp. $ 3.–

MAUERSBERG, HANS. *Wirtschafts- und Sozialgeschichte zentraleuropäischer Städte in neuerer Zeit.* Göttingen 1960. Vandenhoeck & Ruprecht. 604 S. 34.– DM

National Bureau of Economic Research. *Demographic and Economic Change in Developed Countries.* Princeton 1960. Princeton University Press. 536 pp. $ 12.–

National Planning Association. *Local Impact of Foreign Trade.* Washington D.C. 1960. National Planning Association. 213 pp. $ 7.–

NEALE, A. D. *The Antitrust Laws of the USA.* Cambridge 1960. The University Press. 516 pp. 45s.

NEMITZ, KURT. *Sozialistische Marktwirtschaft.* Frankfurt a.M. 1960. Europäische Verlagsanstalt. 245 S. 15.– DM

PFOUTS, RALPH W., ED. *Essays in Economics and Econometrics.* Chapel Hill 1960. The University of North Carolina Press. 240 pp.

REES, ALBERT. *New Measures of Wage-Earner Compensation, 1914–1957*. New York 1960. National Bureau of Economic Research, Occasional Paper 75. 26 pp. $ 0.75

ROBERTSON, D. J. *Factory Wage Structures and National Agreements*. Cambridge 1960. The University Press. 260 pp. 40s.

ROBINSON, JOAN. *Exercises in Economic Analysis*. London 1960. Macmillan Ltd. 242 pp. 16s.

SALIN, EDGAR. *Friedrich List. Kerneuropa und die Freihandelszone*. Zwei Reden. Tübingen 1960. Mohr (Siebeck). 53 S. 2.40 DM

SCHELER, MAX. *Die Wissensformen und die Gesellschaft*. Bern 1960. Francke Verlag. 536 S. sFr. 38.–

SCHILLER, KARL. *Zur Wachstumsproblematik der Entwicklungsländer*. Kiel 1960. Kieler Vorträge, Neue Folge 15. 24 S.

SIMHA, S. L. N. *The Capital Market of India*. Bombay 1960. Vora & Co. 300 pp. 30s.

SIMON, PHILIPPE. *Le Financement des Entreprises*. Paris 1960. Libraire Dalloz. 254 pp. 11.90 NF

SJOBERG, GIDEON. *The Preindustrial City, Past and Present*. Glencoe, Illinois. The Free Press. 353 pp. $ 6.75

STARK, W. *Montesquieu, Pioneer of the Sociology of Knowledge*. London 1960. Routledge & Kegan Paul Ltd. 213 pp. 25s.

STEPANEK, JOSEPH H. *Managers for Small Industry*. Glencoe, Illinois. The Free Press. 245 pp.

TAYLOR, OVERTON H. *A History of Economic Thought*. London 1960. McGraw-Hill. 524 pp. 60s.

WADSWORTH, GEORGE P. and BRYAN, JOSEPH G. *Introduction to Probabilty and Random Variables*. London 1960. McGraw-Hill. 292 pp. 68s.

The Soviet Seven Year Plan. Introduced by Alec Nove. London 1960. Phoenix House Ltd. 126 pp. 10s. 6d.

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